

APPLICATIONS FOR ADMISSION AND FOR TRANSFER

The Constitution provides that the Board of Direction shall elect or reject all applicants for *Admission* or for *Transfer*, and, in order to determine justly the eligibility of each candidate, the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information, and every member is urged to scan carefully each monthly list of candidates and to furnish the Board with data in regard to any applicant which may aid in determining his eligibility. It is the *Duty* of all *Members* to the *Profession* to assist the Board in this manner.

It is especially urged, in communications concerning applicants, that errors in the record be pointed out and a *Definite Recommendation as to the Proper Grading in Each Case* be given, inasmuch as the grading must be based upon the opinions of those who know the applicant personally, as well as upon the nature and extent of his professional experience. If facts exist derogatory to the personal character or to the professional reputation of an applicant, they should be promptly communicated to the Board. *Communications Relating to Applicants are considered by the Board as Strictly Confidential.*

The Board of Direction will not consider the applications herein contained from residents of North America until the expiration of thirty (30) days, and from Non-Residents of North America until the expiration of ninety (90) days from August 1, 1924.

MINIMUM REQUIREMENTS FOR ADMISSION

Grade	General Requirement	Age	Length of Active Practice	Responsible charge of work
Member	Qualified to design as well as to direct work	30 years	10 years*	5 years
Associate Member	Qualified to direct work	25 years	6 years*	1 year
Junior	Qualified for sub-professional work	18 years†	2 years*	
Affiliate	Qualified by scientific acquirements or practical experience to co-operate with engineers			
Fellow	Contributor to the permanent funds of the Society			

* Graduation from a school of engineering of recognized reputation is equivalent to 2 years' active practice.

† Membership ceases at age of 32 unless transferred to higher grade.

LIST OF APPLICANTS.

Names and Addresses of Applicants for Admission and for Transfer on this Preliminary List, Arranged Alphabetically.

Name.	Address.	Page.	Name.	Address.	Page.
ALLEN, HAROLD.....	Manhattan, Kans.....	166	GARRETT, BLINN K.....	Lubbock, Tex.....	181
ANDREWS, ADEN W.....	Lincoln, Nebr.....	166	GASTMEYER, ROBERT W.....	New York City.....	182
ARNEBERG, BIRGER.....	Brooklyn, N. Y.....	166	GILBERT, CHARLES B.....	New York City.....	182
ASH, WILLIAM J.....	Newark, N. J.....	216	GLEISSNER, MAXIMILIAN J.....	Washington, D. C.....	182
BABEL, HERMAN.....	Pittsburgh, Pa.....	167	GODFREY, WILLIAM B.....	Strathmore, N. J.....	183
BAILHACHE, JOHN G.....	Phoenix, Ariz.....	217	GOLD, MAXWELL.....	New York City.....	235
BAKER, ROBERT H.....	Nashville, Tenn.....	167	GORDON, ARTHUR F.....	Takoma Park, D. C.....	183
BAKER, THOMAS W.....	Portland, Ore.....	167	GORIA, HUBERT.....	Brooklyn, N. Y.....	184
BAJINA, MANUEL R.....	Buenos Aires, A. R.....	167	GRANNIS, JAMES K.....	Dayton, Ohio.....	222
BALTASAR, APOLINARIO.....	Manila, P. I.....	168	GRIEVE, JOHN.....	New York City.....	184
BANDTEL, HERBERT E.....	Milwaukee, Wis.....	168	GRIFFIN, ARTHUR J.....	Brooklyn, N. Y.....	222
BATTY, FREDERIC A.....	Los Angeles, Cal.....	168	GROVES, EDGAR A.....	New York City.....	184
BAUMANN, JULIAN H.....	Greenville, S. C.....	168	GUERRY, RAYMOND M.....	Saranac, N. Y.....	185
BELMACE, MICHAEL J.....	Rochester, N. Y.....	168	GWILLIM, EDWARD C.....	Sheridan, Wyo.....	185
BEBEA, ALEXANDER, JR.....	New Orleans, La.....	169	GWYHER, V. M. W.....	Vancouver, B. C.....	185
BEBG, WILLIAM A.....	Milwaukee, Wis.....	169	HAMILTON, RAYMOND T.....	Muncie, Ind.....	186
BICKEL, GEORGE R.....	Louisville, Ky.....	233	HAMMONS, RAY D.....	Gary, Ind.....	186
BIB, EMIL.....	Brooklyn, N. Y.....	169	HANLON, JAMES E.....	Boston, Mass.....	186
BLACKMAN, STEWART.....	Washington, D. C.....	233	HARDESTY, JAMES M.....	Urbana, Ill.....	186
BRIER, WILLIAM W.....	San Francisco, Cal.....	169	HARDING, CLIFFORD L.....	Troy, N. Y.....	187
BRIGHT, LESLIE E.....	Corvallis, Ore.....	218	HARNEY, FRANCIS V.....	New York City.....	187
BROWN, CHANNING B.....	Charlotte, N. C.....	233	HARNISH, CORNELIUS P.....	Alhambra, Cal.....	187
BROWN, DOUGLAS M.....	Brooklyn, N. Y.....	170	HAWTHORNE, THOMAS.....	Port-au-Prince, Haiti.....	187
BROWN, FRED M.....	Bozeman, Mont.....	218	HEATON, EARL O.....	Washington, D. C.....	235
BRUCHSTEIN, A. E.....	New York City.....	170	HEINS, FRANK C.....	Laredo, Tex.....	188
BURROWS, LYNN M.....	Aibion, N. Y.....	170	HEWSON, JOSEPH S.....	Amherst, N. S. Can.....	188
BUTLER, WILLIAM L.....	Philadelphia, Pa.....	170	HILDABRAND, CARL.....	Shanghai, China.....	188
BUZBY, ARTHUR D.....	Upper Montclair, N. J.....	219	HILL, HUBERT M.....	Washington, D. C.....	188
BYRNE, WILLIAM E.....	Oklahoma City, Okla.....	171	HILL, LLOYD R.....	Ann Arbor, Mich.....	189
CAICEDO, PABLO E.....	Bogota, Colombia.....	171	HIRSCHORN, LOUIS N.....	Brooklyn, N. Y.....	189
CAREY, CLIFTON O.....	Ann Arbor, Mich.....	171	HOWARD, HENRY G.....	Santiago, Chile.....	189
CARREL, CLARK M.....	Portland, Ore.....	172	HOWE, JEROME W.....	Worcester, Mass.....	189
CARROLL, HOMER C.....	Mt. Carmel, Ill.....	172	HUBER, EARL R.....	Benton, Cal.....	189
CARROLL, HUGH J.....	New York City.....	172	HUSSEY, HAROLD D.....	New York City.....	189
CHASE, CLEMENT E.....	Philadelphia, Pa.....	219	JAMES, CARL.....	Birmingham, Ala.....	190
CHOTAI, BHIMJI K.....	Kathlawar, India.....	173	JAMES, ROGER T.....	Charlotte, N. C.....	190
CLARK, ELDON S.....	Boston, Mass.....	173	JANSEN, EDWARD C.....	Denver, Colo.....	223
CLAUS, FRED C.....	Hadden Heights, N. J.....	173	JOHNSON, CHARLES R.....	Washington, D. C.....	191
CLEMENT, COLEMAN C.....	Columbus, Ohio.....	174	JONES, RALPH E.....	Greenville, Pa.....	191
CLEMMER, EDGAR L.....	Brownsville, Pa.....	174	KABASHIMA, MASAYOSHI.....	Tokyo, Japan.....	223
CLOSSON, WILLIAM G.....	Flushing, N. Y.....	220	KEIRLE, CLIFFORD C.....	Omaha, Nebr.....	191
COE, EDWARD H.....	Ft. Humphreys, Va.....	234	KERSHAW, PHILLIP F.....	Brooklyn, N. Y.....	191
CONNELL, JASPER S.....	Vancouver, B. C.....	174	KHAN, SHAIBR A.....	Rampur State, India.....	192
CORLETT, WILLIAM G.....	Oakland, Cal.....	220	KIMBELL, RICHARD G.....	Washington, D. C.....	192
COULSON, ERNEST B.....	Thermopolis, Wyo.....	175	KNOWLTON, STEPHEN B.....	Champaign, Ill.....	192
COYLE, DAVID C.....	New York City.....	175	KRAEMER, LEO.....	Washington, D. C.....	193
CREGLOW, FREDERICK D.....	Boulder, Colo.....	175	KRAMER, HANS.....	Pasadena, Cal.....	236
CROUT, PAUL G.....	Baltimore, Md.....	176	KRUSE, OTTO V.....	Philadelphia, Pa.....	224
CURRIE, FRANK S.....	Alhambra, Cal.....	176	KURTZ, ROBERTO.....	Buenos Aires, A. R.....	193
CUSTER, ELMER.....	Scarsdale, N. Y.....	176	LAMPRECHT, JOSEPH.....	Utica, N. Y.....	193
DAVIS, EDWIN L.....	Washington, D. C.....	176	LANE, DWIGHT A.....	Los Angeles, Cal.....	193
DE LIMA CAMPOS, A. F.....	Rio de Janeiro, Brazil.....	176	LARSON, HARRY.....	Callender, Iowa.....	193
DENZLER, EDWIN W., JR.....	Philadelphia, Pa.....	234	LAUTZ, MARTIN W.....	Buffalo, N. Y.....	194
DE OLIVEIRA PENTEADO, JOAQUIM T.....	Sao Paulo, Brazil.....	176	LEACH, WALTER L.....	Cleveland, Ohio.....	194
DE WITT, CLINTON.....	San Francisco, Cal.....	177	LEE, DONOVAN H.....	London, England.....	194
DIBBELL, HERBERT A.....	Shokan, N. Y.....	177	LEON, BRIGER.....	Detroit, Mich.....	194
DICKEMAN, CHARLES T.....	Pearl Harbor, Hawaii.....	177	LEVITT, CHARLES A.....	Brooklyn, N. Y.....	195
DICKINSON, WILLIAM E.....	Tucson, Ariz.....	178	LICHTER, JACOB.....	Cleveland, Ohio.....	195
DOLSON, FRED O.....	Riverside, Cal.....	178	LOPEZ, ARMANDO M.....	Matanzas, Cuba.....	195
DREWRY, WILLIAM F., JR.....	Petersburg, Va.....	179	LUCK, CHARLES M.....	Richmond, Va.....	196
DWYER, BURTON G.....	Santa Rita, N. Mex.....	179	MACDONALD, ALBERT F.....	Woodlawn, Pa.....	196
EAST, ERNEST E.....	Glendale, Cal.....	179	MCCULLOUGH, ROBERT W.....	Bedford, Pa.....	196
EHLERS, PAUL F. H. G.....	Los Angeles, Cal.....	179	MCKELVEY, JAMES G.....	St. Louis, Mo.....	236
EVANS, JOHN M.....	San Francisco, Cal.....	234	MCPHERSON, JOHN F.....	Westmount, Que.....	197
EVERETT, CHESTER M.....	New York City.....	220	MAGGI, AGUSTIN.....	Montevideo, Uruguay.....	197
FABER, BENNIE H.....	Columbus, Tex.....	179	MARSHALL, WILMOT N. D.....	Spanish Town, Jam.....	197
FEER, HUGO A.....	New York City.....	180	MAUZY, ANDREW B.....	Jersey City, N. J.....	197
FERNANDEZ, JOSE C.....	Mexico City, Mex.....	180	MEAD, HAROLD W.....	Madison, Wis.....	236
FIELD, HARRY O.....	Sanford, Me.....	180	MELIORANSKY, K. P.....	New York City.....	197
FINLAY, ALLAN H.....	Revelstoke, B. C.....	180	MENDARO, JOSE A.....	Havana, Cuba.....	198
FISK, WILLIAM B.....	Jackson, Mich.....	180	MENEFEE, FERDINAND N.....	Ann Arbor, Mich.....	224
FITZGER, JOHN C.....	Laramie, Wyo.....	221	MEYER, ADOLF.....	New York City.....	198
FLIMING, ERIC.....	New Brunswick, N. J.....	234	MIDOLO, MARIO J.....	Philadelphia, Pa.....	198
FLOYD, EARL N.....	Cincinnati, Ohio.....	221	MIFFLIN, WILLIAM B.....	Castleton, N. Y.....	198
FOWLER, FREDERICK H.....	Palo Alto, Cal.....	221	MILLER, ROBERT M.....	Norfolk, Va.....	224
FRASER, LAWRENCE R.....	Waterbury, Conn.....	181	MOCK, WESLEY C.....	Portland, Ore.....	198
GALLAGHER, LEONARD B.....	New Haven, Conn.....	235	MOEHLE, FREDERICK L.....	Baltimore, Md.....	199
GAMBLE, RALEIGH W.....	Milwaukee, Wis.....	181	MOORE, STUART B.....	New Castle, Ky.....	199
			MORE, CHARLES.....	Brooklyn, N. Y.....	199

LIST OF APPLICANTS (Continued).

Name	Address	Page	Name	Address	Page
MORGAN, WALTER L.	Spokane, Wash.	225	SELLERS, FRANCIS B.	Washington, N. C.	209
MUGLER, RICHARD C. W.	New York City	200	SHAFFER, GEORGE E.	Paradise, La.	209
MURRAY, CHARLES J. Jr.	Knoxville, Tenn.	200	SHEEHAN, BERNARD G.	Weehawken, N. J.	209
MYLREA, THOMAS D.	Urbana, Ill.	200	SHRANK, HOUTSON C. R.	Chattanooga, Tenn.	210
NAKAYAMA, CHUSABURO	New York City	200	SHUMAKER, LLOYD M.	Nashville, Tenn.	210
NEUMAN, HERMAN B.	Holtwood, Pa.	201	SIMPSON, HERMAN N.	Houston, Tex.	237
NETTLETON, ELWOOD T.	Harrisburg, Pa.	201	SLACK, THOMAS A.	Ft. Worth, Tex.	210
NEUFFER, ALFRED	Utica, N. Y.	201	SLATTERY, FREMONT W.	Calexico, Cal.	210
NEWMAN, STANLEY W.	New York City	201	SLY, CLARENCE J.	Berkeley, Cal.	210
NISHKIAN, LEON H.	San Francisco, Cal.	225	SMILLIE, RALPH	New York City	228
NORTON, ARTHUR H. W.	San Antonio, Tex.	202	SMITH, ELMER L.	Pasadena, Cal.	211
OBERT, RUSSELL M.	Columbus, Ohio	202	SMITH, JOHN H.	Pittsburgh, Pa.	211
OGLE, HENRY L.	New York City	202	SMITH, RAYMOND H.	Columbus, O.	211
OLDS, ROBERT E.	Whittingham, Va.	226	SNYDER, BAIRD, 3d.	Westfield, N. J.	211
OLEWILER, WILLIAM N.	Pleasantville, N. Y.	202	SOULE, JOHN E.	Pensacola, Fla.	211
OLYAGUE Y CALDERON C.	Lima, Peru	202	STAGER, FREDERICK E.	Swissvale, Pa.	237
PALMER, BENJAMIN H. Jr.	Norwichtown, Conn.	202	STAGG, JAMES R.	Dallas, Tex.	212
PASQUARELLI, JOSEPH	New York City	203	STEELE, GARLAND F.	Atlanta, Ga.	212
PAXTON, THOMAS P.	Okmulgee, Okla.	226	STODDARD, ALEXIS E.	Springfield, Ill.	212
PETTY, ROYAL E.	Cleveland, Ohio	203	STRAUS, HERMAN L.	Louisville, Ky.	212
PHILLIPS, JAMES E.	Los Angeles, Cal.	203	STROYAN, PHILIP B.	Vancouver, B. C.	212
PHILLIPS, LAURENCE J.	Boston, Mass.	203	SUMMERS, RICHARD E. J.	Cleveland, Ohio	228
PHILLIPS, ROBERT J.	Tokyo, Japan	236	SUOZZO, LEONARD S.	New York City	212
PIRNIE, HERBERT M.	New York City	226	SVENSSON, VIKTOR	Brooklyn, N. Y.	213
POMYKALA, EDMUND S.	Savannah, Ga.	204	SWAFFORD, PAUL A.	Berkeley, Cal.	213
POOLE, CHARLES O.	Los Angeles, Cal.	204	SWANK, CLYDE E.	Charleston, Mo.	229
PRICE, PINCKNEY B.	Bonham, Tex.	204	TEMPLIN, RICHARD L.	Parnassus, Pa.	237
PURCELL, STEUART	Baltimore, Md.	227	THOMAS, WESLEY C.	Collingswood, N. J.	213
RADER, LLOYD F.	Ann Arbor, Mich.	204	TOWNSEND, FRANK M.	Tepec, Mex.	213
RAMOS, THEODORE A.	Sao Paulo, Brazil	204	TYRRELL, HENRY G.	Baltimore, Md.	214
RAYNER, ADRIEN B.	Punjab, India	204	UPHAM, CHARLES M.	Raleigh, N. C.	229
REID, CECIL L.	Richmond, Va.	227	VALLE, JUAN A.	Buenos Aires, A. R.	215
REINECKE, PAUL S.	Buffalo, N. Y.	205	VOGEL, KARL E.	Omaha, Nebr.	229
RHODES, RALPH F.	Savannah, Ga.	205	WALSER, DANIEL C.	Washington, D. C.	230
RICHARDS, WM. H. Jr.	Washington, D. C.	206	WARD, ROLAND F.	Redondo Beach, Cal.	215
RICHARDSON, EARLE W.	Washington, D. C.	206	WARD, WILLIAM B.	Cincinnati, Ohio	215
RIDDELL, JOHN C.	Salina, Kans.	207	WARE, HOWARD T.	El Paso, Tex.	230
RIGLER, HOWARD M.	Portland, Ore.	207	WEAVER, CHARLES J.	Waterford, N. Y.	230
RIVERO, JUAN R.	Cochabamba, Bolivia	207	WEAVER, CHARLES R.	New York City	215
RUPPEL, WALTER H.	Webster City, Iowa	207	WEISS, THEODORE F.	New York City	215
RUSSELL, GEORGE R.	Kansas City, Mo.	207	WELSH, JOHN R.	Champaign, Ill.	215
RUSSELL, HOWARD W.	Springfield, Ill.	207	WHITTON, CHARLES A.	Oakland, Cal.	215
SAENG-KUTO, SEA M.	Washington, D. C.	208	WILBUR, WILLIAM E.	Nashville, Tenn.	231
SAGAL, MARCUS	Minneapolis, Mo.	208	WILEY, JAMES H.	Bismarck, N. Dak.	216
SANTACRUZ, ARMANDO, JR.	El Paso, Tex.	208	WILKIN, INCREASE C. J.	Gardiner, N. Y.	216
SCHLICH, OTTO S.	New York City	227	WILSON, WILLIAM H.	McMinnville, Tenn.	231
SCHROEDER, WILLIAM C.	Chicago, Ill.	208	WITTEN, DONALD	Tulsa, Okla.	231
SCHUYLER, PHILIP	San Francisco, Cal.	208	WRIGHT, JESSE B.	Flagstaff, Ariz.	232
SEAMAN, MILTON B.	Freeport, N. Y.	209	WYNNE, HAROLD G.	New Haven, Conn.	232
SEARANCE, STEPHEN H.	Sacramento, Cal.	209	ZELIFF, DAVID W.	Arlington, N. J.	216

(Continued)

The fact that applicants give the names of certain members as references does not necessarily mean that such members endorse.

The numbers to the left of each name indicate the serial number of the applicant for the current year, and the district in which he resides.

The note in heavy type represents, in each case, the estimate of the Applicant of the time he has spent in Sub-Professional work, Professional work, Responsible Charge, and in Designing. These figures include the allowance of two years for graduation, and one-third of a year for each academic year successfully completed in an engineering college without graduation.

Abbreviations used in this list are: TT = Total Time; SP = Sub-Professional Work; P = Professional Work; RC = Responsible Charge; D = Design.

FOR ADMISSION

490 (14) ALLEN, HAROLD, 1712 Poyntz Ave., Manhattan, Kans. (Age 29. Born Leadville, Colo.) 1920 B. S. in C. E., Univ. of Colo. June 1920 to Jan. 1921 Engr. in charge of concrete construction, Great Western Sugar Co., Loveland, Colo. TT 2.5: RC 0.5. March to Sept. 1921 Instructor in Mechanics and Mathematics for vocational students, Univ. of Colorado. TT 0.5: P 0.5. Sept. 1921 to date Instructor in Strength of Materials, Applied Mechanics and Road Materials, Dept. of Applied Mechanics, Kansas State Agricultural Coll.; Asst. Testing Engr. TT 2.8: RC 2.8. TT 5.8: RC 3.8. Refers to L. E. Conrad, I. C. Crawford, F. F. Frazier, M. W. Furr, W. C. Huntington, J. B. Marcellus.

491 (14) ANDREWS, ADEN WRIGHT, 444 South 33d St., Lincoln, Nebr. (Age 41. Born Juneau, Wis.) 1905 B. S. in C. E., and 1912 C. E., Univ. of Wis. June to Sept. 1902 Asst., resurveying townsite, establishing street and sidewalk grades, monumenting corners, preparing maps for City of Columbus, Wis., under direction of Leonard Sewell Smith. June to Sept. 1903 Transitman, U. S. Dept. of Rivers and Harbors, Milwaukee, Wis. TT 2.5. June 1905 to date with Chicago, Burlington & Quincy R. R. as follows: June 1905 to Jan. 1906 Draftsman, also some transit work; Jan. 1906 to Sept. 1911 Asst. Bridge Engr. at Lincoln, Nebr., preparing plans of wood, concrete and steel structures, turntables and plant layouts, making field inspections, keeping costs, posting records, making estimates, handling correspondence; Sept. 1911 to Nov. 1912 Chf. Draftsman at Lincoln, preparing plans and material bills for all classes of structures, depots, freight houses, coal chutes, water stations, track layouts, etc., supervising map drafting and record keeping, handling correspondence, supervising employees; Nov. 1912 to May 1918 Office Engr. at Lincoln, on same work, also supervision of cost estimating force, and (in 1916-1917) organizing and supervising force preparing maps for Federal valuation of C., B. & Q. R. R. Lines West; since May 1918 Office Engr. at Lincoln, on same work, also supervision of force preparing bridge plans, estimates and records, thus absorbing direction of all office engineering work of the department; work at present also includes special engineering studies and investigations, acting as expert witness before State Ry. Commissions, partial direction of field engineering forces, handling a large volume of department correspondence, and frequently acting as Prin. Asst. Engr. TT 18.9: RC 18.3: D 0.6. TT 21.4: RC 18.3: D 0.6. Refers to F. T. Darrow, W. Grant, L. J. Hotchkiss, C. E. Mickey, W. H. Pahl, F. E. Turneure.

492 (1) ARNEBERG, BIRGER, 364 Park Pl., Brooklyn, N. Y. (Age 31. Born Kristiansand, Norway.) 1916 C. E., Norway Inst. of Tech. Aug. 1916 to July 1921 Asst. Engr., and July 1921 to March 1924 Divisional Engr., Norway Govt. Dept. of Water Power and Electrification, until May 1919 on investigation of and designs for developments of water power; then on construction of Hakavik Power Plant, and after May 1922 on planning and designing of water power developments. TT 9.6: SP 2: P 7.6: RC 5.9: D 3.6. Refers to A. Gundersen, H. P. R. Jacobsen, N. H. B. Jessen, G. Miller, E. N. Peterson, O. Singstad.

493 (6) BABEL, HERMAN, 1526 Frick Bldg., Pittsburgh, Pa. (Age 28. Born Braunschweig, Germany.) 1917 Ph. B., Sheffield Sci. School. 1 year student, graduate work in Civ. Eng., same school. June to Oct. 1917 Draftsman, Dept. of Structures, New York, New Haven & Hartford R. R. Co. *TT 2.3: SP 2.3.* May 1918 to March 1920 Draftsman and Designer, Dept. of Bridges and Bldgs., Erie R. R. Co., designing all kinds of structural steel and concrete structures and some wooden structures; investigating stresses and carrying capacities of railroad and highway bridges and similar work. *TT 1.8: SP 0.2: P 1.6: RC 0.5: D 1.* March 1920 to date Draftsman, Timekeeper, Field Engr., and Chf. Clerk, Erecting Dept., American Bridge Co., Pittsburgh, Pa., detailing and drafting (6 months), timekeeping and assisting Field Engr. on bridge construction (1½ years); Field Engr. in connection with rebuilding railroad bridges, designing schemes for erecting various structures and similar work (over 2 years). *TT 4.1: SP 0.5: P 3.6: RC 1: D 1.* *TT 8.2: SP 3: P 5.2: RC 1.5: D 2.* Refers to J. L. deVou, F. W. Henricl, R. Khuen, Jr., C. L. Nord, N. H. Orr.

494 (10) BAKER, ROBERT HOWELL, State Highway Dept., Nashville, Tenn. (Age 30. Born Watertown, Tenn.) 1910 to 1912 Student, David-Lipscomb Coll., Nashville, Tenn. July 1914 to May 1917 in private practice as Designer and Bldr. of residences, store and mill buildings and warehouses (cost \$1 000 to \$15 000). Also took courses in Architecture and Structural Eng. at International Correspondence Schools. *TT 2.9: SP 1.6: P 1.3: RC 1.3: D 1.3.* May 1917 to Sept. 1919 2d Lieut., 1st Lieut. and Capt., U. S. Army, approx. two-fifths of time on construction and drainage of cantonments, camps and other subprofessional engineering. *TT 0.9: P 0.9.* Sept. 1919 to June 1920 Special Eng. Student, Univ. of Tennessee. *TT 0.3: SP 0.3.* June 1920 to May 1923 with Tennessee Dept. of Highways as follows: June to Aug. 1920 Draftsman, Plans Div.; Aug. 1920 to April 1921 Inspector, Instrumentman and Jun. Engr., part of time in responsible charge of bridge and culvert construction (cost approx. \$200 000); part of time on design of drainage structures; April to Aug. 1921 Office Engr., Headquarters Office, at Nashville, on supervision of records, engineering estimates, preparation of specifications, and similar work relating to highway construction; Aug. 1921 to May 1923 Asst. to Chf. Engr. *TT 2.9: SP 0.3: P 2.7: RC 2.6: D 0.2.* May 1923 to date Second Asst. State Highway Engr., State of Tennessee, Dept. of Highways and Public Works, Nashville. *TT 1: P 1: RC 1.* *TT 8: SP 2.2: P 5.9: RC 4.9: D 1.5.* Refers to C. N. Bass, W. P. Butler, A. J. Dyer, J. G. Jackson, B. H. Klyce, D. Q. McComb, H. McDonald, F. V. Ragsdale, E. B. Wilkinson, C. B. Wilson.

495 (12) BAKER, THOMAS WALLACE, 925 Gasco Bldg., Portland, Ore. (Age 39. Born Media, Pa.) 1908 M. E., Cornell Univ. Dec. 1908 to June 1911 Supt. of Constr., Hurley-Mason Co., Contrs. and Engrs., Portland, Ore., in full charge of Lewis Bldg. (8 stories), Arlington Club (2 stories) and Runyon Garage (2 stories), Portland (all reinforced concrete); Toutle River Bridge piers and retaining walls, double-tracking of Northern Pacific R. R. between Tenino, Wash., and Portland, and Jackson St. Viaduct, Seattle, Wash. (reinforced concrete and structural steel). *TT 2.5: SP 0.2: P 2.3: RC 2.3.* June 1911 to Dec. 1913 Supt. of Constr., Norton Griffiths Steel Constr. Co., Vancouver, B. C., Canada, in full charge of Crane Bldg. (4 stories), B. C. Securities Bldg. (8 stories) and Vancouver Club (5 stories), all in Vancouver, and Burns Bldg., Calgary, Alberta (8 stories) (all reinforced concrete). *TT 2.5: P 2.5: RC 2.5.* Dec. 1913 to Oct. 1914 Member of firm, Baker & Ellicott, Contrs. and Engrs., Vancouver. *TT 0.8: P 0.8: RC 0.8.* Oct. 1914 to Oct. 1915 Supt. in charge of concrete work for Henry, McFee & McDonald, Vancouver, in full charge of placing concrete, government dock, Vancouver. *TT 1: P 1: RC 1.* Jan. 1916 to date, Mgr. and Engr., Hurley-Mason Co., in charge of all work, including design in Spokane, Wash. (1916 to 1918), Tacoma, Wash. (1918 to 1919), and Seattle Wash. (1919 to 1921); from 1921 to 1922 had full charge of construction of Lewis Clarke Hotel, Lewiston, Idaho; since 1922 Prin. Asst. Engr., Portland Office, including designing. *TT 8.3: P 8.3: RC 5.8: D 2.5.* *TT 17.1: SP 2.2: P 14.9: RC 12.4: D 2.5.* Refers to W. G. Brown, K. D. Hauser, G. B. Hezardt, E. B. MacNaughton, G. C. Mason, H. A. Rands, M. E. Reed.

496 (1) BALINA, MANUEL ROQUE, Rivadavia 144, Temperley, Buenos Aires, Argentine Republic. (Age 42. Born Lomas de Zamora, Argentina.) 1904 C. E., Univ. of Buenos Aires. Jan. 1905 to April 1906 Engr. of Public Works, Dept. of R. Rs., Ministry of Public Works, Buenos Aires. *TT 3.3: SP 2: P 1.3.* 1907 to 1910 Engr. Inspector of Works (by administration and contract), Municipality of Buenos Aires. *TT 3: P 3: RC 3.* 1910 to 1917 Chf. Engr. of Section, Dept. of Public Works, and 1917 to 1923 Chf. Engr. of Section, Constr. of Pavements, Dept. of Public Works, Municipality of Buenos Aires. *TT 13: P 13: RC 13.* Nov. 1923 to date Gen. Inspector of pavements and public sanitary works of Buenos Aires. 1924 Delegate of Municipality of Buenos Aires to Pan-American Highway Comm. *TT 1.5:*

P 1.5: RC 1.5. TT 20.8: SP 2: P 18.8: RC 17.5. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

497 (1) **BALTASAR, APOLINARIO**, 533 R. Regente, Manila, Philippine Islands. (Age 39. Born Calococan, Rizal, Philippine Islands.) 1908 C. E., Cornell Univ. TT 2: SP 2. Sept. 1908 to date with Dept. of Eng. and Public Works, Manila, as follows: Sept. 1908 to Nov. 1910 Jun. Surveyor, and Nov. 1910 to Sept. 1911 Surveyor, street and property surveys, profile of streets and map of city; location survey of new streets and bridge sites; Oct. 1911 to March 1914 Asst. Engr., preparing plans and estimates for construction of streets and bridges; March 1914 to June 1916 Second Asst. City Engr., responsible officer in charge of Div. of Drafting and Surveys, revising and signing plans; June 1916 to Feb. 1920 Supt. of Street Constr. and Bridges in charge of construction, maintenance and repair of streets and bridges, also of street railway tracks, and prepared design and specifications for streets and bridges in the City; since Feb. 1920 First Asst. City Engr.; in absence of City Engr. acts as Chf. of the department; also Supt. of Street Constr. and Bridges having additional responsibility of passing on designs and plans of buildings erected in city and supervision over construction of all city buildings, also supervision over collection and disposal of waste. 1918 to 1920 (2 years) also professional Lecturer of Mathematics, and 1920 to 1921 (1 year) also Special Prof. of Mun. Eng., Univ. of the Philippines. TT 15.6: P 7.8: RC 7.1: D 0.7. TT 17.6: SP 2: P 15.6: RC 7.1: D 0.7. Refers to F. A. Barnes, S. Garmez, A. Gideon, M. Toby, E. S. von Piontkowski.

498 (7) **BANDEL, HERBERT EUGENE**, 477 Fifty-second St., Milwaukee, Wis. (Age 36. Born Hamilton, Ohio.) Student, Ohio Univ. (2 years) and Miami Univ. (1 year). Also completed several advanced commercial courses and taught classes in engineering. July 1908 to June 1911 Engr. of Design, The Bender Co., Hamilton, Ohio, in charge of design, quantity surveys and costs. TT 3: P 3: D 3. July 1911 to July 1917 Structural Engr., Paul Riesens Sons Co., Inc., Engrs. and Gen. Contrs., Milwaukee, Wis., in charge of all construction work, bridges, banks, factories and highways. TT 6: P 6: RC 4.5: D 1.5. Aug. 1917 to July 1919 Cons. Engr., American Appraisal Co. of Milwaukee and New York City, in charge of public utility valuation work, rate cases, mines, natural resources, railroads, fire loss adjustments, establishing of correct plant, property and equipment accounts (corporations). TT 2: P 2. July 1919-Dec. 1921 Auditor, J. I. Case Plow Works Co., Racine, Wis., in charge of corporation accounting, factory costs, sales statistics, etc. TT 2.4: P 2.4. March 1922 to date Asst. Engr., Bldgs., The Milwaukee Elec. Ry. & Light Co., Milwaukee, in charge of all building construction and maintenance, power plants, substations, bridges, etc. TT 2: P 2: RC 1.5: D 0.5. TT 15.4: P 15.4: RC 6: D-5. Refers to H. J. Cowle, O. D. Dales, N. R. Gibson, J. L. Harper, A. W. Pierson, R. V. Rose, G. M. Shepard.

499 (11) **BATTY, FREDERIC ARTHUR**, 942 S. Bronson Ave., Los Angeles, Cal. (Age 48. Born London, England.) 1902 to 1908 Asst. Engr. to City Engr., Instrumentman, general drafting and design, and 1908 to 1910 City Engr., Santa Barbara, Cal. TT 8: SP 2: P 6: D 2. 1910 to 1918 Asst. Engr., Sewer Design Dept., and 1918 to 1923 Asst. Engr. in charge of Sewer Constr. Dept., Los Angeles, Cal. TT 13: P 13: RC 13. 1923 to 1924 Asst. Chf. Engr., outfall sewer, Los Angeles. TT 1: P 1: RC 1. TT 22: SP 2: P 20: RC 14: D 2. Refers to J. C. Clausen, T. A. Jordan, W. T. Knowlton, R. W. Stewart, H. A. Van Norman, J. C. Wright.

500 (10) **BAUMANN, JULIAN HENRY**, Box 754, Greenville, S. C. (Age 22. Born Greenville, S. C.) 1922 B. S., Clemson Agri. Coll. June 1922 to Nov. 1923 Instrumentman and Res. Engr., J. E. Sirrine & Co., Greenville, S. C. TT 3.4. Nov. 1923 to June 1924 Estimator, W. M. Welch, Inc., Greenville. TT 0.6. TT 4. Refers to E. L. Clarke, H. L. Hagerman, E. Mauldin, H. T. Poe, Jr., J. E. Sirrine.

501 (3) **BELMACK, MICHAEL JOSEPH**, 101 Meigs Street, Rochester, N. Y. (Age 28. Born Pittsburgh, Pa.) Oct. 1915 to May 1916 Draftsman and Tracer, H. Koppers Co., Pittsburgh, Pa., detailing and tracing construction and machinery for by-product plants. TT 0.6. May 1916 to Feb. 1920 Transitman and Draftsman, Pennsylvania R. R. Co., surveys, plans and estimates of construction. TT 3.8. Feb. to Dec. 1920 Staff Appraiser, American Appraisal Co., Milwaukee, Wis., making inventories of construction of industrial plants. TT 0.8. Jan. to June 1921 Valuation Asst. with engineering firms in New York City, making inventories of public utilities. TT 0.5. July 1921 to July 1922 Valuation Asst. with E. J. Cheney, Cons. Elec. Engr., New York City, as Squad Supervisor on inventories of construction of public utilities. TT 1. Aug. 1922 to date Valuation Asst., analyzing

construction costs, building unit prices, pricing, computing and writing up valuation reports, until April 1923, for Erie R. R., New York City; then for Buffalo, Rochester & Pittsburgh Ry. Co., Rochester, N. Y. TT 1.7. TT 8.4. Refers to E. D. Bean, H. H. Garrigues, J. H. Granbery, E. F. Robinson, J. D. Ward.

502 (15) BERE, ALEXANDER, Jr., 3731 Napoleon Ave., New Orleans, La. (Age 26. Born in Gibraltar.) 1921 B. E. in Civ. Eng., Tulane Univ. of La. July to Dec. 1921 Inspector on construction, Louisiana Fire Prevention Bureau, New Orleans, La. TT 2.5: SP 2: P 0.5. Dec. 1921 to date Estimator, Doullut & Williams Co., Inc., New Orleans, estimating, quantity surveying and instrument work on building construction. TT 2.5: P 2.5: RC 1. TT 5: SP 2: P 3: RC 1. Refers to C. G. Cappel, D. Derickson, J. P. Ewin, H. J. Lane, L. C. Smith, W. H. Williams.

503 (7) BERG, WILLIAM ANTON, 1456 Sixth St., Milwaukee, Wis. (Age 25. Born Milwaukee, Wis.) June 1918 to date Inspector, Sewerage Comm. of Milwaukee, Wis., on construction of 48-in. and 42-in. reinforced concrete sewer in open cut on pile foundations, and an inverted syphon (cast-iron pipe) through the river on pile foundations (1½ years), 72 in. concrete in tunnel (5 months) and of sheet steel pile coffer dam (800 by 1 000 ft.) and 1 800 ft. of stone-filled pile protection-bulkhead in Lake Michigan for reclaiming land for disposal plant site (nearly 1 year); experimental work on sewage screens (over 2 months); in charge of inspection of filter air diffuser plates at Rochester, N. Y., for the Commission (over 1 year); Inspector on concreting operations on aeration and sedimentation units of the disposal plant (over 7 months); loaned by the Sewerage Comm. to City of Indianapolis, Ind., to take charge of inspection of filter air diffuser plates at Rochester (over 2 months); Inspector on concreting operations on aeration and sedimentation units, and painting, piping, setting container and separator blocks, etc., of disposal plant (over 1 year). TT 5.9: SP 4.6: P 1.8: RC 1.8. Refers to J. L. Ferebee, T. C. Hatton, A. L. Kurtz, R. R. Lundahl, G. W. Rauch, D. W. Townsend.

504 (1) BIE, EMIL, 296 Ryerson St., Brooklyn, N. Y. (Age 45. Born Christiania, Norway.) 1900 C. E. Christiania Tech. Coll. Aug. to Dec. 1900 Eng. Asst., Christiania Municipal Highway Dept., computing estimates and on map work. TT 2.3: SP 2.3. Dec. 1900 to Dec. 1901 Asst. Engr. with Alf. Hurum, Contr., Christiania, in charge of office and field force on road building and macadamizing of streets and highways. TT 1: P 1: RC 1. March 1902 to July 1903 Draftsman, Metropolitan St. Ry. Co., New York, computing and making track layouts for slotted track and steel construction for Yonkers Power Plant. TT 1.3: SP 1.3. July 1903 to Feb. 1904 Draftsman with Milliken Bros., New York, detailing structural steel for building work. TT 0.6: SP 0.6. Feb. 1904 to April 1905 Designer, Brooklyn Rapid Transit R. R., designed storage yard, East New York, with elevated connection (cost \$400 000); valued Kings County R. R., 6 miles elevated structure and 6 miles surface for legal settlement. TT 1.2: P 1.2: D 1.2. April 1905 to Sept. 1907 Asst. Engr., New York Central R. R., in charge of squad (under Designing Engr.) designing track layout for Grand Central Station and third rail layouts for electric zone; research work on track details and tunnel data (under Research Engr.) TT 2.5: P 2.5: RC 2.5: D 2.5. Sept. to Dec. 1907 Designer, American Bridge Co., Brooklyn Plant, redesigning part of Pennsylvania Station, New York City. TT 0.3: P 0.3: D 0.3. Jan. 1908 to Aug. 1909 Bridge Designer, State Engr.'s office, Barge Canal, Albany, N. Y., designed highway and railroad bridges, concrete arch viaducts, lock gates and safety locks and canal prism for 6 miles of canal, Erie Canal. TT 1.7: P 1.7: D 1.7. Aug. 1909 to June 1920 Designer, Transit Comm., New York City, in charge on subway design; handled (under Designing Engr.) complete design on various subway contracts (cost up to \$2 000 000); 2 years studied traffic conditions on subway platforms and designed control rail. TT 10.8: P 10.8: RC 8: D 10.8. June 1920 to June 1922 Engr., Chf. Engr.'s office, American Gas & Elec. Co., New York City, designed Spray Pond, Scranton, Pa. (cost \$15 000), coal-handling systems, Atlantic City (cost \$40 000), Ballville, Ohio (cost \$15 000) and Rockford, Ill. TT 2: P 2: D 2. Aug. 1922 to date Asst. Engr., Board of Estimate, New York City, on computations of stresses in tunnel lining, Narrows Tunnel, investigation of safety of elevated structures and traffic studies for Interborough Rapid Transit Subways (under Comm. of Transportation Facilities). TT 1.8: P 1.8: RC 1.8. TT 25.5: SP 4.2: P 21.3: RC 11.5: D 20.3. Refers to C. E. Conover, P. P. Farley, H. C. Keith, J. C. Meem, J. H. Quimby, R. Ridgway, F. W. Skinner, J. B. Snow, G. F. Swain, A. S. Tuttle.

505 (13) BRIER, WILLIAM WALLACE, 204 Kirkham St., San Francisco, Cal. (Age 65. Born Centerville, Cal. 1882 Ph. B., Coll. of Civ. Eng., Univ. of Cal. Aug. 1882-Sept. 1883 Clerk in Div. Engr.'s office, Galveston, Harrisburg & San Antonio Ry., El Paso, Tex., mainte-

nance of way and water supply, El Paso to San Antonio and Eagle Pass Branch. TT 3.2: SP 2.6: P 0.6. Feb. 1884 to June 1885 teaching in public schools in San Luis Obispo and Los Angeles Counties, Cal. Aug. 1885 to July 1890 proprietor of book business in San Francisco, Cal. Jan. 1891 to Aug. 1897 in private practice in California, surveys, water supply. TT 6.6: P 6.6: RC 6.6: D 3.6. Aug. 1897 to March 1901 Civ. Engr., Alameda Sugar Co. and Union Sugar Co. of California, railway, irrigation, drainage and reclamation. TT 3.6: SP 0.6: P 3: RC 3.6: D 3. March 1901-Dec. 1905 Chf. Engr., E. B. & A. L. Stone Co., Ry. Contrs., California, railway, irrigation, etc., construction; in charge of construction of Standard Portland Cement Co. Plant, Napa Junction; concrete bridge (984 ft.) for Salt Lake Ry. across Santa Ana River, Cal., and similar work. TT 4.8: P 4.8: RC 4.8: D 2.8. March 1906 to March 1917 Pres. and Engr., Occidental Constr. Co. of California, railway construction. TT 11: SP 5: P 6: RC 11: D 3. May 1917 to Jan. 1923 Pres. and Engr., Western Reinforced Concrete Pipe Co. of California, design, manufacture and installation of reinforced concrete pipe for pressure lines, culverts, sewers, etc. TT 5.6: SP 1: P 4.6: RC 5.6: D 4.6. TT 34.8: SP 9.2: P 25.6: RC 31.6: D 17. Refers to B. Benfield, A. Kempkey, J. Newman, A. D. Schindler, F. H. Tibbetts.

506 (1) BROWN, DOUGLAS MacNEIL, 55 Hanson Pl., Brooklyn, N. Y. (Age 22. Born Hoboken, N. J.) 1922 B. S. in C. E., Lafayette Coll., Easton, Pa. June 1922 to date Contr. Engr., Chicago Bridge & Iron Works, 1 year in shop, field and drafting-room and 1 year in sales work. TT 4: SP 4. Refers to F. O. Dufour, W. S. Lohr, J. McNeal, L. Perry, H. T. Spengler.

507 (1) BRUCHSTEIN, ABRAHAM ELIEZER, 56 East 184th St., New York City. (Age 26. Born Jerusalem, Palestine.) 1923 C. E., Pol. Inst. of Brooklyn. 1917 to 1920 with British Royal Engrs., Draftsman and Field Inspector on water supply and sewerage works in Jerusalem. TT 5: SP 5. 1920 to 1921 Draftsman on turbine machinery details, Rateau, Battu, Smoot & Co., New York City. TT 1: SP 1. 1923 Draftsman and Designer, Ammonia Corporation, New York City, on reinforced concrete and structural steel for an ammonia plant at Niagara Falls. TT 0.5: P 0.5. 1923 to 1924 Draftsman and Designer with W. G. Clark, New York City, on concrete and steel for hydro-electric development on Colorado River. TT 0.3: P 0.3. Feb. 1924 to date Hydro-electric Designer, Elec. Bond & Share Co., New York City. TT 0.1: P 0.1. TT 6.8: SP 6: P 0.8. Refers to P. H. Budd, H. R. Codwise, H. P. Hammond, C. W. Hudson, E. J. Squire.

508 (3) BURROWS, LYNN MOORE, Albion, N. Y. (Age 40. Born Saginaw, Mich.) 1907 C. E., Rens. Pol. Inst. Sept. 1907 to Jan. 1908 in charge of sewer construction, Medina, N. Y. TT 2.3: SP 2.3. Oct. 1908 to April 1909 Asst. Engr. in charge of construction, New York Barge Canal Contr. No. 64, Empire Engr. Corporation. TT 0.5: P 0.5. April 1909 to April 1910 in partnership, land surveying, with Chas. Ingersoll, C. E., Medina. TT 1: P 1: RC 1. April 1910 to Jan. 1922 land surveying, engineering-drainage. TT 11.7: P 11.7: RC 11.7. Jan. 1922 to Oct. 1923 Engr. in charge of construction, sewer systems and water distribution, surveys, drainage. TT 1.8: P 1.8: RC 1.8. Oct. 1923 to date on engineering, sewer design, sewer construction surveys; at present designing and supervising improvement of approaches to Niagara Ry. Arch Bridge, Niagara Falls, N. Y., also designing and supervising construction of sewers. TT 0.5: P 0.5: RC 0.5: D 0.2. TT 17.9: SP 2.3: P 15.5: RC 15: D 0.3. Refers to C. A. Ingersoll, W. S. Lozier, A. E. Roche, W. W. Rousseau, G. S. Thompson.

509 (4) BUTLER, WILLIAM LAWRENCE, 1230 Bankers Trust Bldg., Philadelphia, Pa. (Age 29. Born Bayard, Ohio.) 1918 B. S. in C. E., Univ. of Pa. June to Sept. 1911 and June 1912 to Sept. 1914 Chf. Clerk to Supervisor and Rodman on Eng. Corps, Pennsylvania R. R. June to Sept. 1915 Mech. Draftsman, Buckeye Engine Co., Salem, Ohio, detail and tracing. June to Oct. 1916 Asst. on Eng. Corps, P. R. R., field and office work, estimating, relining curves, field work on construction of East Rochester (Ohio) Cut-Off. July to Nov. 1917 Field Engr. with Cons. Engr. Percy Wilson, Executive Engr., Univ. of Pennsylvania, on construction of concrete highways. Feb. to June 1918 (during college course) Asst. to Engr. in Chg., on inventory and appraisal, Lehigh Valley Transit Co., and Traffic Engr., Wilkes-Barre Rys. June 1918 Instructor in Surveying, Univ. of Pennsylvania. TT 4.7. July to Dec. 1918 Lieut., Engr. Corps, U. S. Army. TT 0.5. Jan. to June 1919 Engr., The Connecticut Co., and Dr. Thomas Conway, Jr., in charge compilation field statistics in extensive origin-to-destination traffic check, and estimate of probable earning capacity under various proposed zone systems of fares; also connected with all other work relative to extensive investigation and study of operating conditions, traffic and proposed fare system.

TT 0.5: RC 0.5. July 1919 to Oct. 1921 Engr. in charge of field inventories, Pennsylvania Power & Light Co., Lehigh Valley Transit Co. and Allied Companies, Dr. Thomas Conway, Jr., Supervisor in charge of field inventories, responsible for appraisal of electric railway properties. **TT 2.3: RC 2.3.** Nov. 1921 to date Chf. of Eng. Dept., Thomas Conway, Jr., and Chicago, Aurora & Elgin R. R., Cincinnati & Dayton Traction Co.; Asst. to Pres. of C. & E. R. R., directly responsible for design, and in charge of construction (\$2 000 000), comprising extensive revisions and construction of track and roadway, three new substations, purchase of 20 new all steel 50-ton cars and other motive equipment, reconstruction of power plant, new shop building, etc.; also Tech. Asst. to Dr. Thomas Conway, Jr., Consultant for Bondholders' Protective Committees on C. & D. T. Co. and other public utility companies in connection with appraisal work, construction and operating methods, traffic investigations and revisions of method, etc.; since Sept. 1923 also Chf. Engr., Thomas Conway, Jr., Corporation, complete municipal development of suburban tract of 105 acres, Upper Darby Township, Delaware County, Pa., including design and construction of streets, sidewalks, curbs, sanitary and storm sewers, installation of water and gas mains, construction of houses, and subdivision into building lots. **TT 2.4: RC 2.4.** **TT 10.4: RC 5.3.** Refers to H. C. Berry, E. T. Grandllennard, C. R. Harte, C. J. Hartenstine, P. H. Wilson.

510 (15) BYRNE, WILLIAM EUGENE, 421 Tradesmen's Bank Bldg., Oklahoma City, Okla. (Age 33. Born St. Louis, Mo.) 1916 B. S. in Civ. Eng., State Univ. of Okla. Nov. 1908 to Dec. 1911 Rodman, Instrumentman, Inspector, Constructing Quartermaster, Ft. Sill, Okla. May to Oct. 1915 Instrumentman and Draftsman, Geo. Dept., Wichita Nat. Gas Co., Bartlesville, Okla. **TT 5.5: SP 5.5.** June to July 1916 Instrumentman with County Engr., Poteau, Okla. **TT 0.1: SP 0.1.** July to Aug. 1916 Res. Engr., Benham Eng. Co., Oklahoma City, Okla. **TT 0.1: SP 0.1.** Aug. to Nov. 1916 Draftsman with Moore & McClure, Cons. Engrs., Oklahoma City. **TT 0.2: P 0.2.** Nov. 1916 to Aug. 1917 Asst. County Engr., Grady and Caddo Counties, Okla., at Chickasha. **TT 0.8: P 0.8.** Sept. 1917 to June 1918 County Engr., Comanche and Caddo Counties, at Lawton, Okla. **TT 0.8: P 0.8: RC 0.8: D 0.2.** July to Dec. 1918 in training camp, U. S. Army, various stations. **TT 0.5: SP 0.5.** Jan. to March 1919 Estimator, Valuation Dept., Philadelphia & Reading R. R., Philadelphia, Pa. **TT 0.3: P 0.2.** April 1919 to Nov. 1920 County Engr., Caddo County, at Anadarko, Okla. **TT 1.6: P 1.6: RC 1.6: D 0.4.** Dec. 1920 to date Valuation Engr., Jas. I. Tucker Co., Oklahoma City. **TT 3.4: P 3.4: RC 1.** **TT 13.2: SP 6.2: P 7: RC 3.4: D 0.6.** Refers to W. L. Benham, J. B. Bennett, M. L. Cunningham, P. H. Everhard, D. H. Jones, H. C. Smith, J. I. Tucker.

511 (1) CAICEDO, PABLO ENRIQUE, 67 Calle 24, Bogota, Colombia. (Age 34. Born Bogota, Colombia.) 1914 C. E., National Univ. of Colombia. 1914 to 1917 Field Engr., Ministry of Public Works, Colombian Govt.; Member of locating party for railroad line between Putumayo River and Pacific Coast. **TT 5: S P2: P 3.** 1917 to April 1919 Chf. Engr. in charge of design and construction of sewer system of City of Girardot, Colombia. **TT 1.2: P 1.2: RC 1.2.** April to Oct. 1919 consulting engineering, surveying, appraisals (500 hectares). **TT 0.5: P 0.5: RC 0.5.** Oct. 1919 to April 1921 Chf. Engr., Upper Magdalena River Transportation Co. **TT 1.5: P 1.5: RC 1.5.** April to Oct. 1921 Municipal Engr., City of Bogota. **TT 0.5: P 0.5: RC 0.5.** Oct. 1921 to date Director General of National Road, Ministry of Public Works. 1924 Delegate of Colombia to Pan-American Highway Comm. **TT 2.7: P 2.7: RC 2.7.** **TT 11.5: SP 2: P 9.5: RC 6.5.** Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

512 (7) CAREY, CLIFTON O'NEAL, R. No. 5, Box 12 B, Ann Arbor, Mich. (Age 48. Born Wilmington, Ohio.) 1900 B. S. Wilmington Coll. 1901 B. S., Haverford Coll. 1906 B. S. in Civ. Eng., and 1914 C. E., Univ. of Mich. Sept. 1906 to Sept. 1908 (except 6 months) Draftsman and Supt. of Bldg. Constr., Sherwin-Williams Co., Cleveland, Ohio; Inspector on construction of reinforced concrete chimney for power house of Cleveland Plant, and of four factory buildings for Chicago Plant; miscellaneous work, such as planning layout of shafting and machinery for factory buildings, plans for alteration and extension of buildings, etc.; designed 4-story reinforced concrete skeleton building for varnish storage, 4-story warehouse, and steel shed for freight platform, for Chicago Plant, steel building for Coffeyville (Kans.) Plant, steel roof trusses for large baghouse for Joplin Plant, and 4-story reinforced concrete skeleton building for Montreal (Que.) Plant. **TT 3.5: SP 2.5: P 1: RC 0.8: D 0.5.** Sept. 1908 to date (except 1½ years leave of absence) with Univ. of Michigan, as Instructor in Surveying (1908-1914), Asst. Prof. of Surveying (1914-1920) and Associate Prof. of Surveying (1920 to date); also some private work, such as laying out city plats and streets, staking

out lots, estimating earthwork for grading, making surveys, etc.; Sept. 1914 in charge of survey party on Detroit United Ry. appraisal work; Sept. 1915 inspecting and checking quantities at Delray Plant of Detroit Edison Co. on appraisal work. *TT 14.5: P 14.5: RC 8.5.* Aug. 1918 to Jan. 1920 Prin. Asst. Engr., Grand Canal Improvement Board, Tientsin, China, until March 1919 in charge of parties laying out base lines along Grand Canal, then in charge of all hydrographic work. *TT 1.4: P 1.4: RC 1.4. TT 19.4: SP 2.5: P 16.9: RC 10.7: D 0.6.* Refers to J. W. Beardsley, M. E. Cooley, C. T. Johnston, H. W. King, H. B. Merrick, R. H. Merrill, J. Ripley, T. H. Wiggin.

513 (12) CARREL, CLARK MELVIN, 554 East Morrison St., Portland, Ore. (Age 41. Born Victoria, Kans.) March 1900 to Feb. 1903 Rodman, Northern Pacific Ry. March 1903 to March 1904 Chainman, San Pedro, Los Angeles & Salt Lake R. R. March 1904 to July 1907 not on engineering work. July to Oct. 1907 Pile Recorder, Western Pacific Ry. construction. *TT 4.3: SP 4.3.* Feb. to Oct. 1908 Asst. Engr. in charge of field work, survey of City of Chihuahua, Mexico, for sewer and water systems, with T. S. Shepperd, New York City. *TT 0.7: P 0.7: RC 0.7.* Nov. 1908 to Oct. 1909 Engr. in charge of land surveys, railroad location and construction, Cementos Hidalgo, Hidalgo, N. L., Mexico, plans and construction of 3 miles of gravity industrial railroad. *TT 1: P 1: RC 1: D 1.* Nov. 1909 to March 1910 Asst. Engr. on various small projects for Bartlett & Ranney, Engrs., San Antonio, Tex., including railroad preliminary and location. *TT 0.3: P 0.3: RC 0.3.* March 1910 to Jan. 1911 Instrumentman, Res. Engr. and Asst. Chf. Engr., Harrison Constr. Co., on railroad location and construction in Texas. *TT 1: SP 0.2: P 0.8: RC 0.8.* June 1911 to Feb. 1913 Res. Engr. in charge of 1st Residency, St. Paul & Kansas City Short Line Extension of Chicago, Rock Island & Pacific Ry. *TT 1.7: P 1.7: RC 1.7.* June 1913 to July 1916 Instrumentman, M. of W., Illinois Central R. R., investigations, reports and court work on drainage and public improvement assessments. *TT 3.1: SP 3.1.* July 1916 to Jan. 1917 County Drainage Engr., Hardin County, Iowa, on design and construction of drainage systems. *TT 0.6: P 0.6: RC 0.6: D 0.6.* Jan. 1917 to March 1918 City Engr., Eldora, Iowa, on plans and specifications for 30 blocks of asphaltic concrete pavement. *TT 1.3: P 1.3: RC 1.3: D 1.8.* April 1918 to March 1919 Constr. Engr., Todd Dry Docks, Inc., Seattle, Wash., construction of ship repair yard on Harbor Island. *TT 1: P 1: RC 1.* April 1919 to March 1921 with Washington State Highway Dept., until Sept. 1919 as Transitman, highway location, location Inland Empire Highway; then Res. Engr. on highway construction. *TT 2: SP 0.5: P 1.5: RC 1.5.* May to Sept. 1921 Engr. in charge of 1 mile of concrete highway construction for City of West Lynn, Ore. *TT 0.5: P 0.5: RC 0.5.* Sept. to Dec. 1921 Engr. in charge of concrete sidewalk construction, City of Gladstone, Ore. *TT 0.3: P 0.2: RC 0.2: D 0.2.* March to May 1922 Engr., Agricultural Committee, Portland Chamber of Commerce; investigation and report on proposed municipal cold storage facilities. *TT 0.1: P 0.1: RC 0.1.* May 1922 to Jan. 1924 Highway Engr., U. S. Bureau of Public Roads, in charge of 18 miles of crushed rock surfacing. *TT 1.5: P 1.5: RC 1.5.* Jan. 1924 to date Engr., Computer, Valuation Dept., Oregon-Washington R. R. & Navigation Co. *TT 0.5: SP 0.5. TT 19.8: SP 8.6: P 11.2: RC 11.2: D 2.9.* Refers to F. W. Austin, C. T. Bartlett, E. W. Dunn, B. O. Johnson, C. H. Purcell, T. S. Shepperd, F. P. Wentz.

514 (8) CARROLL, HOMER CLARENCE, Box 184, Mt. Carmel, Ill. (Age 23. Born Longview, Tex.) 1923 B. S. in Civ. Eng., Tex. Agri. and Mech. Coll. *TT 2: SP 2.* June 1923 to date Jun. Engr., Illinois State Highway Dept., on office work (June to Aug. 1923 and Jan. to April 1924), Inspector on 45 miles concrete pavement (Aug. 1923 to Jan. 1924), and since April 1924 Res. Engr. in responsible charge of construction of over 6 miles concrete pavement. *TT 1: SP 0.1: P 0.9: RC 0.1. TT 3: SP 2.1: P 0.9: RC 0.1.* Refers to B. Bird, J. L. Lochridge, J. C. Nagle, J. J. Richey, A. W. Wand.

515 (1) CARROLL, HUGH JOSEPH, 1414 Merriam Ave., New York City. (Age 30. Born New York City.) 1917 B. S. in C. E., Manhattan Coll., New York City. June to Sept. 1917 Rodman, Thompson-Starrett Co., New York City. *TT 2.3: SP 2.3.* Sept. 1917 to Feb. 1918 Draftsman and Computer, Hopedale Coal Co., making topographical maps, plotting and checking boundary traverses, and office work. *TT 0.4: P 0.4.* Feb. to July 1918 Draftsman and Computer, Atlantic Loading Co., reducing and plotting stadia notes, figuring railroad and street earthwork, laying out street grades, estimating quantities and town layouts. *TT 0.4: SP 0.4.* July 1918 to March 1919 Private, 2d E. T. R., Camp Humphreys, Va., on layout and erection of portable buildings, running boundary surveys. *TT 0.7: SP 0.5: P 0.2: RC 0.2.* March to Sept. 1919 Road Engr. and Foreman with Chas. E. Fraser, clearing and grading for 4000 ft. of 16-ft. wide water-bound macadam road, private estate. *TT 0.5: P 0.5: RC 0.5.* Oct. 1919 to March 1920 Draftsman, Amerada Petroleum Corporation, com-

pling maps from planetable surveys and government charts. *TT 0.5: P 0.5.* April 1920 to Jan. 1921 Asst. Field Engr., Willys Corporation, Elizabeth, N. J., checking by instrument and inspection work performed by contractors, fabricated steel and reinforced concrete automobile plant, personal charge of underground piping, sidewalks and concrete fence, checking estimates, etc. *TT 0.8: P 0.8: RC 0.4.* March to Nov. 1921 Asst. Engr., Pitometer Co., Boston, Mass., personal inspection and testing water piping in city's distribution system from 40-in. mains to ½-in. services, eliminating waste, leaks and steals. *TT 0.7: P 0.7: RC 0.7.* Nov. 1921 to Sept. 1922 Graphic Chart Draftsman, Constr. Service Co., making graphic charts for cost and quantitative analysis; research work for book on highway construction. *TT 0.9: P 0.9.* Sept. 1922 to March 1923 Field Engr., M. W. Kellogg Co., Bayonne, N. J., on erection and construction of brick and steel shops; substituted for Constr. Supt. during his absence; pipe manufacturing plant. *TT 0.5: P 0.5: RC 0.1.* March 1923 to date Engr. with Battey & Klipp, Chicago, Ill., on railroad shops, engine houses, etc., machine tool layouts and foundations (design), estimating, drafting. *TT 1.4: P 1.4: RC 0.4: D 0.4.* *TT 9.1: SP 3.2: P 5.9: RC 2.3: D 0.4.* Refers to E. D. Case, R. T. Dana, B. J. Hickey, L. C. Hough, J. H. H. Muirhead.

516 (1) CHOTAI, BHIMJI KESHAVJI, Sub-Divisional Officer, J. S. P. W. D., Nawa Darwaja, Una, Kathiawar, India. (Age 33. Born Junagadh, India.) 1907 to 1911 Accountant and Asst. to building contractor of Bombay, India, on post office, hospital and other municipal works, and Draftsman in Public Works Dept. of Junagadh State. *TT 5: SP 5.* 1912 to 1918 Draftsman, Estimator, Surveyor and Leveler in charge of municipal engineering, Drawing and Survey Sec., at Ahmedabad; also Sub-Overseer and Overseer on roads, buildings, water-works and drainage works, city improvement work and town planning, small tram line and other sanitary works of Ahmedabad Municipality; about 4 years preparing schemes of surface drainage, water-works and drainage extension, designed for school buildings, slaughter house, markets, etc.; also on town planning scheme, road widening scheme, etc.; had charge of these works; student (nights in architecture and painting, Govt. School of Drawing and Design, Ahmedabad. *TT 7: P 7: RC 4.* 1919 to 1920 Overseer in City Div. of Jamnagar State, especially on buildings, causeways (for irrigation), roads and miscellaneous works under Supervisor, Public Works Dept., Jamnagar. *TT 1: P 1: RC 1.* 1920 Local Board Overseer at Dhandhuka in charge of the division; designed and executed work on roads, school buildings, wells, water troughs, reservoirs, etc. (independently). *TT 0.5: P 0.5: RC 0.5.* 1920 to date Sub-Divisional Officer at Una, designing and executing work on roads, school, bungalow, police and judicial buildings, port works of Nawa Darwaja and Bherai and irrigation works, etc., after approval of designs from Supt., Junagadh State, Public Works Dept. *TT 3.4: P 3.4: RC 3.4.* *TT 16.9: SP 5: P 11.9: RC 8.9.* (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

517 (2) CLARK, ELDON SAUNDERS, 14 Beacon St., Boston, Mass. (Age 35. Born Boston, Mass.) 1910 S. B., Mass. Inst. Tech. Oct. 1911 to March 1914 with Barrows & Breed, Boston, on drafting, designing, field work, surveying and inspection, grade-crossing elimination and hydraulic computations. *TT 4.4: D 0.5.* March to Nov. 1914 drafting, designing and detailing, Power Constr. Co., Worcester, Mass. *TT 0.6: D 0.6.* March 1915 to Feb. 1916 member of firm, Clark & Gore, construction work, superintendence of concrete work (miscellaneous) road work. *TT 0.9: RC 0.9.* Feb. 1916 to Sept. 1917 Designer and Squad Chf. with Stone & Webster, on steam-power plant work, concrete and steel structures. *TT 1.6: RC 0.8: D 0.8.* Sept. 1917 to July 1919 Asst. and Chf. Draftsman, Material Supervisor, American International Shipbuilding Co. *TT 1.7: RC 1.7.* July 1919 to March 1921 Asst. Engr. with Stone & Webster, on concrete and steel structures, office and manufacturing buildings, appraisal work. *TT 1.6: RC 1.6.* March 1921 to date with Metcalf and Eddy, as Asst. Engr. on water supply and sewage disposal, Asst. on preparation of reports, supervision of construction. *TT 3.3: RC 3.3: D 3.* *TT 14.1: RC 8.3: D 4.9.* Refers to H. K. Barrows, C. B. Breed, A. C. Eaton, F. A. Marston, L. Metcalf, E. F. Rockwood, A. L. Shaw.

518 (4) CLAUS, FRED CHARLES, Box 233, Hadden Heights, N. J. (Age 33. Born Philadelphia, Pa.) Licensed Highway Engr. and Land Surveyor, State of New Jersey. June 1906 to June 1907 Rodman, with Pugh & Hubbard, Civ. Engrs., Philadelphia, Pa. *TT 1: SP 1.* June 1907 to Nov. 1909 Rodman, and Nov. 1909 to Nov. 1910 Transitman, on surveys, with Franklin & Clarke, Philadelphia. *TT 3.5: SP 3.5.* Nov. 1910 to July 1920 with Franklin & Co., Philadelphia, until June 1914 as Chf. of Survey Party; then Prin. Asst. Engr. in charge of field work, surveys and construction work, including town development, roads, sewerage systems; Engr. in charge of extension to water supply system of Borough of Shippensburg (approx. cost \$50 000); Engr. and Supt. in charge of construction

of dam for Geo. W. Norris at Dimock, Pa. (cost \$40 000); Engr. in charge of construction of roads and improvements to estate of Alfred C. Harrison at Orelan, Pa. (approx. cost \$35 000). TT 9.6: SP 1: P 8.6: RC 6.1: D 1.5. July 1920 to Jan. 1922 Supt. of Constr. for Gillespie & Franklin, Contrs., in construction of 9 miles of Pennsylvania State Highway in Schuylkill County, Pa. (cost \$800 000). TT 1.5: P 1.5: RC 1.5. Feb. to May 1922 Asst. Civ. Engr., New Jersey State Highway Dept., Camden, N. J., on design of White Horse Pike. TT 0.2: P 0.2: RC 0.1: D 0.1. June to Dec. 1922 Supt. of Constr. for Benj. Franklin, Jr., Contr., in charge of construction of $3\frac{1}{2}$ miles of Delaware State Highway (approx. cost \$100 000). TT 0.6: P 0.6: RC 0.6. April 1923 to date with New Jersey State Highway Dept., until Dec. 1923 as Senior Draftsman on special assignments, surveys and preliminary estimates of approaches to Jersey City Vehicular Tunnel and in responsible charge of preliminary surveys and estimates for bridge over Raritan River and approaches to Delaware River Bridge at Camden; since then Res. Engr. acting as Chf. Draftsman on design, plans and estimates of proposed highways for South Jersey, Southern Div. Office, Camden. TT 1.2: SP 0.2: P 1: RC 1: D 0.5. TT 17.7: SP 4.7: P 12.9: RC 9.3: D 2.8. Refers to J. J. Albertson, L. E. Andrews, B. Franklin, A. R. Lindsey, H. A. Schofield, B. M. Schmucker, J. A. Williams.

519 (9) CLEMENT, COLEMAN CLAY, Route 2, Station B, Columbus, Ohio. (Age 29. Born Marion, Ky.) June 1918 to May 1919 Rodman, Illinois Central R. R. Co. TT 0.9: SP 0.9. May to Sept. 1919 Jun. Instrumentman, N. E. Stone Eng. Co. TT 0.3: SP 0.3. Sept. to Dec. 1919 at Engr. Officers' Training School, U. S. Army. TT 0.2: SP 0.2. Dec. 1919 to Feb. 1921 Transitman and Chf. of Party on land survey for E. D. Marshall, Kuttawa, Ky. TT 1.2: SP 1.2. Feb. to Sept. 1921 Draftsman, Kentucky Highway Dept. TT 0.6: SP 0.6. Sept. 1921 to Jan. 1922 Transitman and Chf. of Party on coal-mine and municipal engineering and land surveying, with H. E. Fox, Civ. Engr., Big Stone Gap, Va. TT 0.3: SP 0.3. Jan. 1922 to May 1923 with Interstate R. R. Co., 8 months as Draftsman on location and construction, then Transitman. TT 1.3: SP 1.3. May 1923 to date Asst. Engr., Upper Arlington Co., designing and supervision of construction of concrete retaining walls, culverts, etc., making construction plans for municipal improvements, land surveys, planning and laying out additions (construction work during 1923 \$200 000, work under construction \$250 000). TT 1.2: P 1.2: RC 1.2. TT 6.1: SP 4.9: P 1.2: RC 1.2. Refers to L. W. Frierson, J. B. Kingsolver, J. L. Orr, R. P. Thompson, W. O. Walker.

520 (6) CLEMMER, EDGAR LOUIS, 519 Market St., Brownsville, Pa. (Age 48. Born Brownsville, Pa.) 1899 to 1900 Stake Driver, and 1900 to 1901 Transitman, Pennsylvania R. R. Co. 1901 to 1902 Transitman, Pittsburgh Coal Co., 1902 to 1904 Transitman in charge of Corps, general railroad engineering. TT 5: SP 5. 1904 to 1908 Res. Engr., Pennsylvania R. R., at Fredericktown, Pa. TT 4: P 4: RC 4. 1908 to 1911 with U. S. Govt., on reconstruction of Springdale Dam and reclamation of properties at Springdale and Aspinwall, Pa. TT 3: P 3: RC 3. 1911 to 1916 with Pennsylvania State Highway Dept. TT 5: P 5: RC 5. 1916 to 1917 with Monongahela R. R. Co., general engineering. TT 1: P 1: RC 1. 1917 to 1919 Capt., Co. E, U. S. Army, until July 1918 commanding Second Battalion in France; Acting Div. Engr., 19th Div. Fortifications, in responsible charge and on design. TT 2: P 2: RC 2: D 2. 1919 to 1922 Asst. Engr., Pittsburgh Steel Co., Monessen, Pa. TT 3: P 3: RC 3: D 3. 1922 to 1924 County Road and Bridge Engr. of Fayette County, Pa. TT 2: P 2: RC 2: D 2. TT 25: SP 5: P 20: RC 20: D 7. Refers to G. H. Biles, J. B. Bott, E. I. Brown, J. Farris, A. B. McGrew, D. K. Orr.

521 (12) CONNELL, JASPER SPENCE, 543 Granville St., Vancouver, B. C., Canada. (Age 40. Born New York City.) 1906 B. S. in C. E., N. Y. Univ. June 1906 to Jan. 1907 Res. Engr. on substation construction, New York Edison Co., New York City. TT 2.7: SP 2: P 0.7. Jan. 1907 to Jan. 1908 Supt. Constr., Hedden Constr. Co., in full charge of construction, West Shore Ry. ferry terminals, 42d St. and Hudson River, New York City. TT 1: P 1: RC 1. Jan. 1908 to Feb. 1909 Chf. Engr., Jones Constr. Co., New York City. TT 1.4: P 1.4: RC 1.4: D 1.4. July 1909 to Sept. 1911 Supt. of Constr., Thompson-Starrett Co., on construction of sub-basement under Title Guarantee & Trust Co. Bldg., New York City (2 months), A. B. Boardman residence (fireproof), Southampton, N. Y. (10 months), Hilliard Bldg., New York City (2 months), Peoples Savings Bank Bldg., Sacramento, Cal. (8 months), and S. B. Cochran Bldgs., Dawson, Pa. (6 months). TT 2.2: P 2.2: RC 2.2. Sept. 1911 to Jan. 1912 Ill. Jan. 1912 to April 1915 in private practice as Cons. Constr. Engr. at San Francisco, Cal.; Expert on appraisals of properties of Spring Valley Water Co., San Francisco, Peoples Water Co., Oakland, Marin County (Cal.) Water Co. and Cueamacher Water Co., East of San Diego, Cal. TT 3.3: P 3.3: RC 3.3. April 1915 to March 1918 member of

firm and Supt. of Constr. Houghton Constr. Co. of San Francisco on construction of reinforced concrete structures for Crown, Willamette Paper Co. at Camas, Wash.; nearly 2 years in full charge of construction of 250-ton paper plan for same company at Ocean Falls, B. C.; completed the work, including design. TT 3: P 3: RC 3. April 1918 to Feb. 1919 Cons. Constr. Engr. at Vancouver. TT 0.9: P 0.9: RC 0.9. Feb 1919 to Nov. 1921 Mgr., Foundation Co. of British Columbia, Ltd. TT 2.7: P 2.7: RC 2.7. Nov. 1921 to Feb. 1924 Pres. and Mgr. Director, J. S. Connell, Ltd., Contr. Engrs. TT 2.3: P 2.3: RC 2.3. Feb. 1924 to date Chf. Engr., Armstrong, Morrison Co., Ltd., Vancouver. TT 0.3: P 0.3: RC 0.3. TT 19.9: SP 2: P 17.9: RC 17.2: D 1.4. Refers to C. C. Cragin, H. J. Deutschbein, G. F. Hardy, A. Haring, F. Lee, H. B. Muckleston, F. M. Sylvester, J. A. L. Waddell.

522 (11) COULSON, ERNEST BROWN, Box 927, Thermopolis, Wyo. (Age 50. Born Salem, Ohio.) 1896 B. S., Kans. State Agri. Coll. May 1898 to March 1899 Chairman and Rodman, Denver & Oklahoma Central Ry. TT 2.9: SP 2.9. April 1899 to Sept. 1900 Stakeman, Rodman, Draftsman, Levelman, Transitman and Res. Engr. on location surveys, Kansas City, Mexico & Orient Ry. TT 1.5: SP 1.5. Oct. 1900 to March 1901 Draftsman and Transitman, Choctaw, Oklahoma & Gulf R. R. TT 0.5: SP 0.5. April 1901 to Nov. 1903 Res. Engr. on construction, K. C., M. & O. Ry. TT 2.7: P 2.7: RC 2.7. Dec. 1903 to March 1904 Res. Engr. on construction, Missouri, Kansas & Texas Ry. TT 0.3: P 0.3: RC 0.3. April to Oct. 1904 Locating Engr. on surveys, Denver, Kansas & Atlantic R. R. TT 0.6: P 0.6: RC 0.6. Dec. 1904 to July 1906 Res. Engr. on construction, K. C., M. & O. Ry. TT 1.7: P 1.7: RC 1.7. Aug. 1906 to Sept. 1909 Locating Engr., Res. Engr. on construction, Oregon Short Line R. R. TT 3.2: P 3.2: RC 3.2. Oct. 1909 to Sept. 1912 Chf. Engr., Castle Valley Ry. and Castle Valley Coal Co. TT 3: P 3: RC 3: D 3. Oct. 1912 to July 1913 Locating Engr. on surveys, Utah Ry. TT 0.8: P 0.8: RC 0.8. Aug. 1913 to March 1915 Chf. Engr., Utah Constr. Co. TT 1.7: P 1.7: RC 1.7: D 1.7. April 1915 to Dec. 1922 Chf. Engr. and Mgr., River Ridge Ranch Co. TT 7.7: P 7.7: RC 7.7: D 7.7. Jan. 1923 to date Chf. Engr., Utah Central R. R. TT 1.5: P 1.5: RC 1.5: D 1.5. TT 28.1: SP 4.9: P 23.2: RC 23.2: D 13.9. Refers to W. R. Armstrong, T. A. Bedford, W. W. Colpitts, H. B. Holmes, O. L. Leefers, M. P. Paret, J. H. Smith.

523 (1) COYLE, DAVID CUSHMAN, 244 Madison Ave., New York City. (Age 37. Born North Adams, Mass.) 1908 A. B., Princeton Univ. 1910 C. E., Rens. Pol. Inst. Sept. 1910 to Aug. 1911 Draftsman with Gunvald Aus, New York City, designed wind bracing of Woolworth Tower (under direction of Mr. Aus). TT 2.9: D 0.4. Sept. 1911 to Oct. 1912 Detailer, Phoenix Bridge Co. TT 1.1. Oct. 1912 to Oct. 1917 Structural and Mech. Designer, Lehigh Valley Coal Co., Wilkes-Barre, Pa., designed outside structures and machinery without check, and Oct. 1917 to June 1918 same work, Delaware, Lackawanna & Western R. R., Coal Dept. TT 5.6: RC 0.5: D 5.6. June 1918-July 1919 in France. Oct. 1919 to date Designing Engr., Gunvald Aus Co., on steel and concrete structures. TT 4.5: RC 4.5: D 4.5. TT 14.1: RC 5: D 10.5. Refers to K. Berle, H. I. Cohen, T. Holst-Grubbe, S. F. Holtzman, A. S. Schoyen.

524 (11) CREGLOW, FREDERICK DELMAR, 1515 Eleventh St., Boulder, Colo. (Age 30. Born Waseca, Minn.) 1920 B. S. in C. E., Univ. of Colo. Oct. 1917 to Sept. 1919 with U. S. Army, at Camp Funston, Kans., first as 2d Lieut., June 1918 commissioned 1st Lieut., and June 1919 Capt.; from Oct. 1917 to March 1918 Engr., Dept. of Camp Activities and Amusements, laying out work and inspection of construction of buildings on amusement zone; after March 1918 Asst. to Officer in Charge Camp Utilities, from March to Oct. 1918 being Officer in charge Drafting Dept., Bldg. Inspector, supervising drafting pertaining to camp maintenance, laying out additional construction work and tent camps, surveys of camp sites, and topographic mapping; from Oct. 1918 to Sept. 1919 on same work, until April 1919 being Asst. Executive Officer assuming his duties in absence of Executive Officer, and after April 1919 Officer in charge of roads and drainage, supervision of maintenance of roads and drainage and flood control. TT 4: SP 2: P 2: RC 1.6. May 1920 to Jan. 1921 Res. Engr. with Johnson & Benham, Cons. Engrs., Kansas City, Mo., supervision and inspection of water-works extensions, Tonkawa, Okla., involving approx. \$50 000. TT 0.7: P 0.7: RC 0.7. May 1921 to Aug. 1923 Engr., Constr. Dept., Univ. of Colorado, drafting, design and supervision of construction of university buildings, Part Time Instructor in structural design and technical mechanics. TT 2.3: P 2.3: D 0.1. Aug. 1923 to date Supt. of Constr. with William E. Fisher & Arthur A. Fisher, Archts., Denver, Colo., supervision of construction of industrial town, Parco, Wyo., involving approx. \$500 000. TT 0.6: P 0.6: RC 0.6: D 0.2. TT 7.6: SP 2: P 5.6: RC 2.9: D 0.3. Refers to N. Charde, I. C. Crawford, F. G. Fellows, W. C. Huntington, A. L. Mullergren, H. W. Nighswonger.

525 (5) CROUT, PAUL GWYNN, 2307 Barclay St., Baltimore, Md. (Age 26. Born Baltimore, Md.) Oct. 1915 to Nov. 1917 Draftsman for Herman F. Doeelman, Cons. Engr., Baltimore, Md., on structural plans, shop details and estimates for reinforced concrete and steel. *TT 2.1*. Nov. 1917 to July 1918 Draftsman, U. S. War Dept., Constr. Div., Washington, D. C., on structural plans, timber and steel construction. *TT 0.6*. July 1918 to July 1919 in Service. July 1919 to June 1921 Structural Designer for Herman F. Doeelman, on structural plans and details for reinforced concrete and steel construction, design of reinforced concrete, steel and timber structures. *TT 1.9*; *RC 1.4*; *D 1*. June to Aug. 1921 Structural Designer and Checker for Dietrich Bros., Baltimore, on design of structural steel, checking steel details. *TT 0.2*; *RC 0.2*; *D 0.2*. Aug. 1921 to date Structural Engr. for Herman F. Doeelman, on design of steel, reinforced concrete and timber construction for mill and office buildings, apartment houses, foundries, schools, churches, swimming pools, etc. *TT 2.9*; *RC 2.9*; *D 2.9*. *TT 7.7*; *RC 4.5*; *D 4.1*. Refers to C. K. Allen, C. R. Burdette, H. F. Doeelman, A. H. Krone, W. C. Schnabel, C. A. Weiller, G. W. C. Whiting. Model of a revised and improved structure noticed on page 101 and has been submitted to the committee on page 101.

526 (11) CURRIE, FRANK SHIELDS, 419 S. Almansor St., Alhambra, Cal. (Age 30. Born Webster City, Iowa.) 1923 B. S. in C. E., Iowa State Coll. June 1911 to Sept. 1912 and June to Sept. 1913 Instrumentman on surveys, drainage work, pavement and sewers for City of Webster City, Iowa. *TT 3.6*; *SP 3.6*. June 1914 to Sept. 1915 instrument and office work on general municipal work, and Engr. in charge of sanitary sewer system, Jewell, Iowa. *TT 1.2*; *SP 1.2*. April 1916 to Dec. 1917 Asst. County Engr., Crawford County, Iowa, on dirt road and bridge and culvert construction. *TT 1.7*; *SP 1.7*. Dec. 1917 to Dec. 1921 County Engr., Franklin County, Iowa, on highway work, dirt and gravel road construction, concrete culvert design and construction, cost-keeping, and organization of construction and maintenance crews. *TT 4*; *P 4*; *RC 4*. April 1923 to date Engr., Currie Eng. Co., Webster City, on design of sewerage systems, sewage-disposal plants and storm drain systems, paving specifications. *TT 1.2*; *P 1.2*; *RC 0.4*; *D 0.8*. *TT 11.6*; *SP 6.4*; *P 5.2*; *RC 4.4*; *D 0.8*. Refers to T. R. Agg, C. C. Coykendall, C. H. Currie, A. H. Fuller, C. S. Nichols, W. H. Root.

527 (1) CUSTER, ELMER, Box 444, Scarsdale, N. Y. (Age 24. Born Johnstown, Pa.) 1923 B. S. in C. E., Bucknell Univ. June to Sept. 1918 Chainman, and April to Sept. 1919 and June to Sept. 1922 Transitman with O. P. Thomas, Cons. Engr., Johnstown, Pa. June to Sept. of years 1920 and 1921 Transitman, Owen & Plummer, Inc., Engrs. and Contrs., Johnstown; part of latter time Carpenter on reinforced form construction, Rosedale Coke Ovens, Semit-Solvey Constr. Co. *TT 2.2*; *SP 2*; *P 0.2*. May to Sept. 1923 Engr. in charge for Bucknell Univ. Stadium Comm., Lewisburg, Pa., excavation, grading and form setting. *TT 0.3*; *P 0.3*; *RC 0.3*. Sept. 1923 to May 1924 Chf. Draftsman for O. P. Thomas, on architectural plotting of highway, land and mine surveys, also computations for the work and estimating. *TT 0.7*; *P 0.7*; *RC 0.6*; *D 0.1*. *TT 3.2*; *SP 2*; *P 1.2*; *RC 0.9*; *D 0.1*. Refers to G. C. Brown, H. G. Harper, W. A. Hoyt, C. D. Loveland, H. E. Trout.

528 (5) DAVIS, EDWIN LESLIE, 4606 Thirtieth St., N. W., Washington, D. C. (Age 30. Born Washington, D. C.) 1917 B. S. in C. E., Univ. of Pa. July to Sept. 1917 Rodman, Office of Public Roads, Dept. of Agriculture. *TT 2.2*. Sept. 1917 to Feb. 1918 Ordnance Sgt., Office of A. O. B. D. F., Eng. Sec., Draftsman, and Feb. 1918 to July 1920 Lieut., Ordnance Dept., various work, chiefly in command of troops and with Salvage Board, last work being Asst. in charge of storing 200,000 bales of cotton lintars at Charleston, S. C. *TT 2.8*; *RC 2*. Aug. 1920 to date Engr., Wm. P. Lipscomb Co., Inc., Bldrs., designing, building construction, estimating; since Sept. 1923 member of firm. *TT 3.8*; *RC 3.8*; *D 3.8*. *TT 3.8*; *RC 5.8*; *D 3.8*. Refers to W. H. Barton, H. C. Berry, J. C. Hoyt, T. W. Marshall, W. E. Rosengarten.

529 (1) de LIMA CAMPOS, ARTHUR FRAGOSO, rua Humayta 36, Rio de Janeiro, Brazil. (Age 32. Born San Luiz, Brazil.) 1916 C. E., Rio de Janeiro Pol. School. 1917 to 1919 Civ. Engr. with Railroads of State of Rio Grande do Sul. *TT 4*; *SP 3*; *P 1*; *RC 1*. 1919 to 1923 Civ. Engr., and 1923 to date Chf. Engr., Reclamation Service of Brazil. Member of First International Eng. Congress, Rio de Janeiro, Brazil (1922), and of Pan-American Highway Comm. (1924). *TT 9*; *SP 3*; *P 6*; *RC 2*. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I. of the By-Laws.)

530 (1) de OLIVEIRA PENTEADO, JOAQUIM TIMOTHEO, 15 Rua Bartyra, Sao Paulo, Brazil. (Age 45. Born Descalvado, Brazil.) 1903 C. E., Pol. Inst. of Sao Paulo. Sept. 1903 to April 1904 Engr., Companhia Docas of Santos, on construction of docks of Port of

Santos, Brazil. TT 2.6: SP 2: P 0.6. May 1904 to Oct. 1908 Engr., Sanitation Comm. of Santos, Brazil, on water supply and sewer system of the city. TT 4.4: P 4.4. Oct. 1908 to Dec. 1911 Chf. Engr., Sanitation Comm. of Recife, Brazil, on water supply and sewer system of the city. TT 3.2: P 3.2: RC 3.2. May 1912 to May 1920 Dist. Chf. Engr., Direction of Public Works of State of São Paulo, Brazil. TT 8: P 8: RC 8. May 1920 to date Inspector General, Bureau of Constr. and Maintenance of State Highways, State of São Paulo. TT 4.2: P 4.2: RC 4.2. 1924. Delegate from Brazil to Pan-American Highway Comm. TT 22.4: SP 2: P 20.4: RC 15.4. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

531 (13) DE WITT, CLINTON, 445 Sutter St., San Francisco, Cal. (Age 30. Born Alameda, Cal.) 1916 B. S., Univ. of Cal. May to Nov. 1916 Rodman and Chairman, Great Western Power Co. TT 2.5. Nov. 1916 to Feb. 1917 Jun. Engr., U. S. Reclamation Service, Carlsbad, N. Mex., in charge of drainage construction. TT 0.2: RC 0.2. Feb. to May 1917 Steel Detailer, American Bridge Co. TT 0.2. May 1917 to May 1919 with U. S. Army, from June to Oct. 1917 as 2d Lieut., Eng. Reserve Corps; then 1st Lieut., U. S. Cavalry, and after Aug. 1918 Capt., Corps of Engrs. TT 2: RC 1.5. June 1919 to Jan. 1920 Asst. Engr., Pacific Gas & Elec. Co., design and Supt. of Constr., Bear River Settler. TT 0.6: RC 0.6: D 0.6. Jan. to June 1920 Designer, ice plant structures, Pacific Fruit Express Co. TT 0.4: D 0.4. June 1920 to date Asst. Engr., Pacific Gas & Elec. Co., design of hydro-electric and transmission structures. TT 3.7: RC 1: D 3.7. TT 9.7: RC 3.3: D 4.7. Refers to B. A. Etcheverry, F. S. Foote, L. R. Jorgensen, A. H. Markwart, R. A. Monroe, O. W. Peterson, I. C. Steele.

532 (3) DIBBELL, HERBERT ASHTON, Shokan, N. Y. (Age 33. Born Shokan, N. Y.) Licensed Prof. Engr. and Land Surveyor, New York State. May 1908 to date (except Sept. 1910 to May 1913 at school) with Board of Water Supply, New York City, as follows: May 1908 to June 1919 Eng. Asst. with field party on construction of Olive Bridge Dam and various structures appurtenant to Ashokan Reservoir (over 5 years) and on preliminary surveys for Shandaken Tunnel (3½ years), acting as Rodman and Chairman (2½ years), Chf. of Party (1½ years), and Transitman (4½ years); June 1919 to March 1922 Chf. of Field Party (2½ years) and office work (6 months) on construction of Shandaken Tunnel; since March 1922 Asst. Engr. in charge of field work and construction of 3 miles of rock tunnel of Shandaken Tunnel (1 year) and of approx. 1 mile of steel pipe siphons on Catskill Aqueduct (1½ years). TT 13.5: SP 6.9: P 4.3: RC 2.3. Refers to H. P. Barnes, R. W. Gausmann, J. A. Guttridge, C. G. Hoerner, Jr., G. G. Honnes, T. Merriman, L. F. Searle, J. W. Smith.

533 (1) DICKEMAN, CHARLES THEODORE, Public Works Office, Naval Station, Pearl Harbor, Hawaii. (Age 30. Born New York City.) 1917 B. S. in C. E. and 1922 C. E., Cooper Union. May to Sept. of years 1916 and 1917 Jun. Asst. Engr., Public Service Comm., New York, first on supervision and inspection on Clark St., Old Slip Tunnel, supervised shield-driving, erecting iron rings, grouting from East River to Fulton St., Brooklyn, tunneling passageway at Clark St. Station; after May 1917 on supervision of 60th St. Tunnel, rock tunneling on Blackwells Island and New York side, blasting, concreting invert side walls and arch, some survey work on base lines and settlement levels on Queensboro Bridge. TT 2.3: SP 2: P 0.3: RC 0.3. Sept. 1917 to May 1919 Sergeant, 302d Engrs., U. S. Army, had responsible charge of parties in construction and repair of roads, railroads, bridges and field fortifications; 3 months Instructor in Mil. Eng., 2d Corps School, Clamecy, France; also experimental with explosives. TT 1.6: P 1.6: RC 0.8. Aug. 1919 to May 1921 with J. D. Jenssen Co., Paper Mill Engrs.; designed and in charge of erection of acid-making installations; drafting and designing on paper-mill installation for new plants and for increased production in old plants; designing of reinforced concrete, shafting, conveyors, elevators, etc. TT 1.3: SP 0.5: P 1.3: RC 0.3: D 1. Sept. 1921 to Aug. 1922 Asst. Public Works Officer, Naval Air Station, Lakehurst, N. J., being Lieut., Civ. Engr. Corps, U. S. Navy; assisted in completion of contracts for \$8 000 000 plant and took charge of construction by yard labor of roads, buildings, structural steel mooring mast, and miscellaneous concrete works. TT 0.9: P 0.9: RC 0.6. Aug. 1922 to date Public Works Officer and Plant Supt., same station, in sole charge of miscellaneous contracts for flashing of hangar, erection of kite balloon hangar, etc.; erected four bungalows for officers; installed high-pressure storage for helium; railroad construction; planted landing field and other small work by yard labor; in charge of operation of power house, truck and railroad transportation, repair and upkeep of all grounds, buildings and plant equipment (plant valued at approx. \$6 000 000); in charge of design

of all new work or alterations. *TT 1.8: P 1.8: RC 1.6: D 0.2. TT 8.4: SP 2.5: P 5.9: RC 3.6: D 1.2.* Refers to W. H. Allen, R. E. Bakenhus, F. E. Foss, F. Freyhold, L. E. Gregory, F. R. Harris, G. A. McKay.

534 (11) DICKINSON, WILLIAM EUGENE, U. S. Geological Survey, University Station, Tucson, Ariz. (Age 35. Born Geneseo, N. Y.) 1914 C. E., Cornell Univ. June to Aug. 1912 Chainman, New York State Eng. Dept.; Inspector on barge canal dredging. June to Sept. 1913 Rodman, New York State Highway Dept.; Office and Field Asst. *TT 2: SP 2.* July to Dec. 1914 and Dec. 1915 to April 1916 Jun. Civ. Engr., Interstate Commerce Comm., Div. of Valuation, detailed roadway and track inventories, Boston & Maine R. R., and Arizona Eastern R. R. *TT 0.7: SP 0.7.* Dec. 1914 to Aug. 1915 Jun. Engr., U. S. Reclamation Service; Draftsman, Instrumentman on canal surveys, Chf. of Field Party on ground water investigation. *TT 0.7: SP 0.3: P 0.4.* Aug. to Nov. 1915 Field Asst., California Highway Comm.; Inspector on construction, grading and concrete paving. *TT 0.3: SP 0.3.* April 1916 to Dec. 1917 Jun. Engr., U. S. Geological Survey, stream measurement work, field and office, in Utah, Oregon and Arizona, Asst. on water-power studies in Oregon. *TT 1.7: P 1.7: D 0.7.* Dec. 1917 to April 1918 2d Lieut., E. R. C., U. S. Army, Student at E. R. O. T. C. *TT 0.3: SP 0.3.* April 1918 to date Jun. Engr., Asst. Engr., and Hydr. Engr., U. S. Geological Survey, stream measurement work, field and office; collection, preparation and analysis of stream flow data; review of data prepared by others; preparation of records for publication; design and construction of structures for stream measurement work; design of equipment and methods; until Nov. 1918 at Washington, D. C., reviewing data; Dec. 1918 to May 1919 in charge of analysis and preparation of data for 1918 in State of Washington; June 1919 to Nov. 1923 First Asst. to Dist. Engr. for Utah and Nevada, acting for him in his absence, in charge of technical work in office, and responsible for field work in a part of district; since Nov. 1923 Dist. Engr. in charge of work in Arizona. *TT 6: P 6: RC 5.5: D 1. TT 11.7: SP 3.6: P 8.1: RC 6.2: D 1.* Refers to N. C. Grover, A. H. Horton, J. C. Hoyt, E. C. LaRue, G. L. Parker, E. A. Porter, A. B. Purton, H. S. Reed.

535 (11) DOLSON, FRED OTIS, 461 West 7th St., Riverside, Cal. (Age 49. Born Denver, Colo.) Aug. 1893 to Aug. 1899 in machine shops in Denver, Colo. (2 years); Salesman in Colorado, Wyoming, New Mexico and Utah placing agencies for bicycles for Pope Mfg. Co., Sterling Cycle Works and Geo. N. Pierce Co. (4 years). *TT 6: SP 6.* Aug. 1899 to Aug. 1904 with Pikes Peak Power Co., Victor, Colo., on hydro-electric plants, until Dec. 1901 as Rodman, Levelman and Transitman on surveys, then (1 year) Timekeeper, Quartermaster and Field Engr. on construction and Dec. 1902 to Aug. 1904 Supt. of Constr. *TT 4.9: SP 3.2: P 1.7: RC 1.7.* Aug. 1904 to Sept. 1906 Engr. and Supt. of construction and operation on hydro-electric project for Pueblo & Suburban Lighting & Traction Co. (successor to above Company). *TT 2.2: P 2.2: RC 2.2: D 2.2.* Sept. 1906 to July 1907 with Hunt, Dillman, Meredith and Allen, Engrs., San Francisco, Calif., Res. Engr. at Manhattan, Nev., on water supply project for Tonopah (Nev.) Exploration Co.; Aug. to Oct. 1907 loaned to Sanderson & Porter as Supt. to excavate and put in foundations for Stanislaw Dam at Relief Meadows. *TT 1.1: P 1.1: RC 1.1: D 0.8.* Nov. 1907 to Sept. 1908 installed 1 000-kw. hydro-electric plant at Ventanas, Durango, Mexico, for Ventanas Min. Co.; work included dam, ditch line, bridges, flumes, tunnels, pressure pipe, power-house building, machinery, 6 600-volt transmission line, and installation of 37 motors for mill and mine operation, including design, surveys and construction. *TT 0.8: P 0.8: RC 0.8: D 0.8.* Sept. 1908 to Dec. 1912 Traveling or Field Engr., Pelton Water Wheel Co., San Francisco (under Chf. Engr.); supervised installation and made efficiency tests of hydro-electric plants (total over 250 000 h. p.), in United States, Canada, Mexico and Hawaii. *TT 4.2: P 4.2: RC 4.2.* Dec. 1912 to Sept. 1913 Irrigation Engr., Pacific Power & Light Co., Portland, making tests, reporting on and designing new pumping installations for irrigation in State of Washington. *TT 0.8: P 0.8: RC 0.8: D 0.8.* Sept. 1913 to March 1914 went to Buenos Aires, Argentina, then to Mendoza on hydro-electric and pumping project for Mendoza Power Co. *TT 0.6: P 0.6.* April and May 1914 with Pelton Water Wheel Co., estimating on installations. *TT 0.2: P 0.2: D 0.2.* June 1914 to date with Southern Sierras Power Co. and Associated Companies, 2 years as Supt. of hydro-electric plants near Bishop; 2 years Supt. of Constr., Rush Creek Plant in Mono County; 4 years Gen. Supt. at Riverside and in charge of operation and maintenance of power plants, transmission and distribution lines and local offices; at present Vice-Pres. and Asst. Gen. Mgr. in direct charge of all engineering and operating. *TT 10: P 10: RC 8: D 3. TT 30.7: SP 9.2: P 21.5: RC 18.7: D 7.7.* Refers to F. H. Fowler, W. L. Huber, E. C. Hutchinson, T. H. Means, W. Meredith.

536 (5) DREWRY, WILLIAM FRANCIS, Jr., 22 Filmore St., Petersburg, Va. (Age 23. Born Petersburg, Va.) 1922 B. S., Va. Mil. Inst. May to Sept. 1918 Rodman with Saville & Claiborne, Engrs. Aug. 1919 Rodman, Virginia State Highway Comm. June to Sept. 1922 Draftsman with C. Lal, Archt., Petersburg, Va. June to Sept. 1923 Transitman, North Carolina State Highway Comm. TT 3: SP 3. Sept. 1923 to Feb. 1924 Transitman and Inspector, municipal engineering, construction and maintenance, Petersburg, Va. TT 0.4: SP 0.4. Feb. 1924 to date in private practice, engineering and architectural design and supervision. TT 0.2: P 0.2. TT 3.6: SP 3.4: P 0.2. Refers to J. E. Anderson, R. D. Budd, C. C. Carroll, W. W. McClevey, R. Messer, A. J. Saville.

537 (11) DWYRE BURTON GOLDING, Santa Rita, N. Mex. (Age 23. Born La Junta, Colo.) May to Sept. 1919 Rodman and Leveler, and April to Nov. 1920 Transitman. U. S. Bureau of Public Roads. TT 0.9: SP 0.9. Dec. 1920 to date with New Mexico State Highway Dept., at Santa Fe, N. Mex., until July 1923 as Instrumentman, and since then Project Engr. in charge of highway construction, Federal Aid Project. TT 3.4: SP 2.6: P 0.8: RC 0.8. TT 4.3: SP 3.5: P 0.8: RC 0.8. Refers to G. T. P. Beattie, W. T. Collings, Jr., J. A. French, F. G. Healy, G. L. McLane, C. G. Morrison.

538 (11) EAST, ERNEST ELWOOD, 121 W. Lexington Drive, Glendale, Cal. (Age 44. Born Madison County, Ind.) 1908 B. S. in Civ. Eng., Purdue Univ. 1908 Rodman, Northern Pacific R. R. TT 2.2: SP 2.2. 1908 to 1909 Office and Field Engr., and 1909 to 1910 Div. Engr. and Roadmaster, Indiana Union Traction Co. TT 2: P 2: RC 2. 1910 to 1911 Chf. of Party, St. Louis & Southwestern R. R. of Texas. TT 0.7: P 0.7: RC 0.7. 1911 to 1912 Chf. of Party, Atchison, Topeka & Santa Fe R. R., Los Angeles Div. TT 0.4: P 0.4: RC 0.4. 1912 to 1919 with California Highway Comm., 4 months as Instrumentman, 10 months Chf. of Party, 1 year Supt. of Constr., 1½ years Res. Engr., 2 years Asst. Div. Engr. and 2 years Gen. Supt. of Maintenance. TT 7.3: SP 0.3: P 7: RC 7. 1919 to 1920 contracting. TT 1: P 1: RC 1. 1920 to 1921 investigational work, and 1921 to date Chf. Engr., Automobile Club of Southern California. TT 3.7: P 3.7: RC 3.7. TT 17.4: SP 2.6: P 14.8: RC 14.8. Refers to L. Aldrich, C. C. Cottrell, S. V. Cortelyou, G. W. Jones, J. B. Lippincott, R. M. Morton.

539 (11) EHLERS, PAUL FREDERICK HENRY GUSTAVE, 362 So. Commonwealth Ave., Los Angeles, Cal. (Age 46. Born Pittsburgh, Pa.) 1896 Rodman, Chainman, Draftsman; 1896 to 1899 Jun. Member, Chas. Ehlers & Son, municipal and railway surveying and mapping, highway and subdivision engineering and surveying. TT 4: SP 3.5: P 0.5: RC 0.5. Jan. 1900-Dec. 1902 Asst. Res. Engr., Southern Pacific R. R., Los Angeles Div., maintenance of way engineering, office and field work, designing and constructing. TT 3: P 3: RC 2: D 2. Jan. 1903 to Sept. 1904 Constr. Engr., Kern River Co., in charge of surveys, design and construction, hydrographic and mining surveying and mapping; designed and supervised construction of headworks, forebays, highway and flume bridges, etc. TT 1.7: P 1.7: RC 1.7: D 1.7. Sept. 1904 to Feb. 1907 in private practice of engineering, made various surveys and reports; designed retaining walls, bridges, reservoirs, and sewage treating plants. TT 2.4: P 2.4: RC 2.4: D 2.4. Feb. 1907 to Oct. 1908 Chf. Engr., Rodeo Land & Water Co., in charge of engineering at Beverly, Cal. TT 1.7: P 1.7: RC 1.7: D 1.7. Oct. 1908 to Dec. 1909 Pres., Eng.-Contr. Co., on hydro-electric and highway work. TT 1.2: P 1.2: RC 1.2: D 1.2. Dec. 1909 to 1924 conducting general engineering construction business; designed and built several bridges, large and small, arch and girder types, also reservoirs, dams, power houses, warehouses, factory buildings, garages, stores and dwellings. TT 14.5: P 14.5: RC 14.5: D 14.5. TT 28.5: SP 3.5: P 25: RC 25: D 23.5. Refers to F. G. Dessery, A. W. Ehlers, F. Gillelen, F. H. Olmsted, H. Z. Osborne, A. L. Sonderegger, S. Storrow, E. J. Waugh.

540 (15) FABER, BENNIE HERMAN, Columbus, Tex. (Age 30. Born Eagle Lake, Tex.) 1915 B. S. in C. E., Tex. Agri. and Mech. Coll. June to Sept. 1914 Chainman and Rodman, and June to Oct. 1915 Instrumentman and Asst. with G. R. Abney, on surveys, irrigation, drainage, city work. TT 2.3. Oct. to Nov. 1915 Instrumentman and Asst. Engr., Dept. of Public Works, Texas Agricultural and Mechanical Coll., on streets, sewerage, water-works, pavement, topography, etc. TT 0.2. Nov. 1915 to July 1916 Jun. Civ. Engr., Grade 2, Interstate Commerce Comm., on valuation of roadbed properties. TT 0.6. July to Sept. 1916 Computer and Instrumentman, I. C. C. Ry., on valuation. TT 0.2. Sept. 1916 to May 1918 Instrumentman, Atchison, Topeka & Santa Fe Ry. TT 1.7. May to Sept. 1918 Private, U. S. Army School of Officers, Engrs., and Sept. to Dec. 1918 2d Lieut., Engrs., U. S. Army, Company Commander. TT 0.7: RC 0.3. Jan. to Sept. 1919 Jun. Civ. Engr., Grade 1,

Interstate Commerce Comm., railroad valuation, Computer and Officer Engr. of Party. TT 0.7: RC 0.7. Sept. to Nov. 1919 Instructor, Texas Agricultural and Mechanical Coll. TT 0.2. Nov. 1919 to June 1920 Asst. County Engr. and Constr. Engr., Polk County, Tex., state highway, designing and supervision of construction. TT 0.6: RC 0.6: D 0.6. June 1920 to date County Engr., Colorado County, state highway, and Supt. of Public Works. TT 3.9: RC 3.9: D 3.9. TT 11: SP 5.6: D 4.5. Refers to B. Bird, D. Lee, J. C. Nagle, R. J. Windrow, W. C. Youngs.

541 (1) FEER, HUGO ANTHONY, Care, H. E. Feer, 1 Liberty St., New York City. (Age 24. Born Zurich, Switzerland.) 1923 Ingenieur Civil, Ecole Polytechnique Federale (Swiss technical university). Aug. 1922 to Jan. 1923 Sec. Engr., Simonett & Co., Contrs., Zurich, Switzerland, supervision in adit of hydro-electric plant. TT 2.5: SP 2: P 0.5: RC 0.5. Aug. 1923 to Jan. 1924 Ingenieur Civil, Isaac Atelier de construction d'Enghien-St. Elou in Enghien, Belgium, designing of steel construction, especially roof-framing, steel bridges and water tanks. TT 0.4: P 0.4: D 0.4. Feb. 1924 to date Draftsman, International Paper Co., New York City. TT 0.4: SP 0.4. TT 3.3: SP 2.4: P 0.9: RC 0.5. Refers to O. H. Ammann, K. E. Hilgard, E. Hutchins, H. M. Nelson, A. H. White.

542 (1) FERNANDEZ, JOSE CERTUCHA, Amberes 64, Mexico City, Mexico. (Age 41. Born Carmen, Mexico.) 1908 C. E. National School of Engrs., Mexico. Jan. to Aug. 1904 Asst. Engr., Lighthouse Service of Mexico, with Gen. Director of Lighthouses; built Punta Jerez Lighthouse. TT 2.7: SP 2: P 0.7. Oct. to Dec. 1904 Levelman with Eduardo Beaven on dam and water-power study in Mexico. TT 0.2: P 0.2: D 0.1. March 1905 to Dec. 1907 Levelman and Transitman with Pearson & Son, Ltd., on railroad work and location of oil pipes in Mexico. TT 2.7: P 2.7: D 0.7. March 1908 to April 1909 Engr. with same company in charge of water supply and sewerage of Puerto Mexico City. TT 1.2: P 1.2: RC 1.2. May 1909 to Dec. 1910 Engr. of design of Lighthouse Service, Partition of Community Lands in Tuxpam, Veracruz, Mexico, studying and building country railroad. TT 1.7: P 1.7: RC 1.2: D 0.5. Feb. 1911 to June 1914 Chf. Inspector of Frontera Tabasco, Mexico, Port Works, and Chf. Inspector of Tampico Port Works, United Dredging Co., Contr., New York City. TT 3.2: P 3.2: RC 3.2. Aug. 1914 to Jan. 1917 Asst. to Gen. Mgr., National R. Rs. of Mexico, in charge of Eng. Dept. TT 2.5: P 2.5: RC 2.5. April 1917 to date Engr. and Representative, in Republic of Mexico, of United Dredging Co. and North American Dredging Co.; Engr. and Director of Chapultepec Heights Co., developing new addition of City of Mexico (25 000 acres); Vice-Pres. of Good Roads Co., building roads and pavements in Mexico. 1924 delegate from Mexico to Pan-American Highway Comm. TT 7.2: P 7.2: RC 7.2. TT 21.5: SP 2: P 19.5: RC 15.3: D 1.3. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-laws.)

543 (2) FIELD, HARRY OSBORN, Turner Constr. Co., Sanford, Me. (Age 28. Born Brewster, N. Y.) July 1913 to Jan. 1917 Clerk, Eng. Bureau, Board of Water Supply, New York City, acting as Office Asst., and at various times Axeman and Rodman. TT 3.5. Sept. 1917 to June 1920 Jun. Asst. Transit Constr. Comm., New York City, acting as Rodman, and Instrumentman on tube tunnel construction. TT 2.7. June 1920 to Jan. 1921 Jun. Draftsman, Baker Perkins Co., White Plains, N. Y., Tracer and Detailler on plant layouts and automatic machinery. TT 0.5. June 1922 to April 1923 Rodman, Board of Water Supply, New York City, also Instrumentman and at various times in charge giving line and grade. TT 0.7. April 1923 to date with Turner Constr. Co., until April 1924 in charge of line and grade on warehouse construction, Philadelphia, also checking steel and assisting superintendent on various details, then Asst. Supt. in charge steel, Textile Mill, Sanford, Me. TT 1.1. TT 8.6. Refers to L. S. Homer, C. J. O'Connor, W. W. Roberts, Jr., W. F. Rugg, H. B. Snell.

544 (12) FINLAY, ALLAN HUNTER, Hotel Revelstoke, Revelstoke, B. C., Canada. (Age 26. Born Guelph, Ont., Canada.) 1924 B. A. Sc. in Civ. Eng., Univ. of B. C. May to Oct. 1922 Recorder on coast triangulation, British Columbia Provincial Govt. May to Oct. 1923 and at present Instrumentman, Canadian Pacific Ry., Revelstoke Div., B. C. Dist. TT 2: SP 2. Refers to W. E. Duckering, E. G. Matheson. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

545 (7) FISK, WILLIAM BRYAN, 1031 S. Milwaukee St., Jackson, Mich. (Age 23. Born Cement City, Mich.) June to Nov. 1919 Rodman and Chainman, and July to Nov. 1920 Rodman, Chainman and Draftsman, Eng. Dept., Jackson, Mich. TT 0.4: SP 0.4. Nov. to Dec. 1919 and April to June 1922 Rodman, Fargo Eng. Co., Jackson. TT 0.1: SP 0.1. Dec.

1919 to July 1920 Draftsman, detail mechanical work and plant layout, Hayes Wheel Co., Jackson. *TT 0.6: SP 0.6.* June 1922 to date Rodman, Chairman, Draftsman, Instrumentman and Inspector, computations, municipal improvements, responsible charge of asphalt pavements, Eng. Dept., Jackson. *TT 1.9: SP 1: P 0.9: RC 0.5. TT 3: SP 2.1: P 0.9: RC 0.5.* Refers to J. H. Bateman, J. S. Bowman, W. G. Fargo, D. M. Hatch, F. B. Kiel.

546 (2) FRASER, LAWRENCE RAYMOND, 72 Alma St., Waterbury, Conn. (Age 45. Born Boston, Mass.) 1903 to 1906 Civ. Engr., E. Harrington & Co., Cons. Engrs., on inspection, reports, surveys, estimates, plans, lines, grades, supervision of construction and maintenance municipal, railway, bridge and highway engineering, working up to Chf. of Survey Party. *TT 3: SP 3.* 1907 to 1920 Special Track Work Engr., Eastern Massachusetts St. Ry., first as Chf. of Survey Party and finally in responsible charge of Dept. of Track, special work, on inspections, reports, surveys, estimates, plans, lines, grades, supervision of construction and maintenance on system (about 1 000 miles of track.) *TT 13: SP 6: P 7: RC 7: D 7.* Autumn 1920 Res. Engr., Massachusetts State Highway Comm., in charge of construction of bituminous macadam highway, lines, grades, materials, supervision of work. *TT 0.2: P 0.2: RC 0.2.* Nov. 1920 to April 1922 Supt. of Constr. and Special Track Work Engr. and Roadmaster, Detroit St. Ry., first year Special Work Engr. in charge of installation of 200 special track layouts in city streets (under heavy traffic); last 6 months Supt. of Constr. and Roadmaster, full charge of men, etc., responsible for excavation, concrete base, track laying and paving. *TT 1.5: P 1.5: RC 1.5: D 1.5.* Summer 1922 Res. Engr. for Essex County Comm., in charge of construction of bituminous macadam highway, lines, grades, materials, supervision of work. *TT 0.2: P 0.2: RC 0.2.* Aug. 1922 to Nov. 1923 Asst. to Designing Engr., New York, New Haven & Hartford R. R., New Haven, Conn., designing engine terminals, yards, stations, track layouts for entire system. *TT 1.3: P 1.3: D 1.3.* Nov. 1923 to date Roadmaster, The Connecticut Co., New Haven, in charge of construction and maintenance. *TT 0.5: P 0.5: RC 0.5. TT 19.7: SP 9: P 10.7: RC 9.4: D 9.8.* Refers to A. L. Donnelly, W. T. Dorrance, W. R. Dunham, Jr., R. R. Evans, H. M. Gould, H. P. Hevenor, F. C. Pillsbury.

547 (7) GAMBLE, RALEIGH WELCH, 678 Hackett Ave., Milwaukee, Wis. (Age 31. Born Chicago, Ill.) 1916 B. S. in Civ. Eng., Univ. of Wis. July to Nov. 1915 Inspector, Wisconsin Highway Comm., in direct charge of construction of reinforced concrete paving, curb and gutter and catch-basins in Black River Falls, Wis.; redesigned provision for surface water runoff for this paving project. *TT 2.* Aug. 1916 to Oct. 1923 with Sewerage Comm. of Milwaukee as follows: Aug. 1916 to June 1917 Engr. Inspector on 48-in. reinforced concrete sewer on pile and timber foundation (until Jan. 1917) and construction of 10-ft. and 14-ft. reinforced concrete tunnels (latter shield driven) under Milwaukee River; June 1917 to Feb. 1919 and May 1919 to Feb. 1920 Res. Engr. in direct charge of construction of concrete sewers in open cut and tunnel (the former on pile foundation except where built through rock), terra-cotta pipe sewers and cast-iron pipe siphon through river, built in cofferdam; Feb. to May 1919 Draftsman designing intercepting device layouts; Feb. to June 1920 Engr. on construction (concrete, brick and steel) of coarse screen and control gate-houses for sewage-disposal plant; June 1920 to Jan. 1921 Senior Engr. in direct charge of construction of stone-filled protection bulkhead, steel sheeting cofferdam and hydraulic dredging reclaiming land from Lake Michigan for sewage-disposal plant site; Jan. to May 1921 in charge of experimental sewage fine screening plant, including design, construction, calibration and operation; May to Nov. 1921 Senior Engr. in charge of pile foundations for sewage-disposal plant; Nov. 1921 to Feb. 1922 Engr. in direct charge of construction of concrete substructure for disposal plant boiler house; Feb. to April 1922 topographical surveys in Metropolitan Sewerage Dist. of Milwaukee County; April to Oct. 1922 Res. Engr. in direct charge of construction of aeration and sedimentation units of activated sludge sewage-disposal plant; after Oct. 1922 Div. Engr. in charge of all construction in North Div. of Metropolitan Sewerage Dist., including concrete and terra-cotta pipe sewers, river crossings, siphons and aqueducts. *TT 7.1: RC 5.7: D 4.8.* Oct. 1923 to June 1924 Advising Engr. and Supt., Wenzel & Henoch Co., Gen. Contrs., on surveys, designs and actual superintendence of construction requiring special engineering knowledge; designs including machinery as well as structural designs for all work for the firm. *TT 0.7: RC 0.7: D 0.7.* At present Supt. of Street Constr. and Repair, City of Milwaukee, in charge of Street Dept., reporting to Commr. of Public Works. *TT 9.7: RC 6.4: D 5.4.* Refers to J. L. Ferebee, T. C. Hatton, R. R. Lundahl, D. W. Townsend, G. R. Young.

548 (15) GARRETT, BLINN KIMBROUGH, Box 463, Lubbock, Tex. (Age 24. Born Eclectic, Ala.) 1923 B. S. in C. E., Univ. of Tex. June to Sept. 1918 Levelman and Draftsman with W. O. Washington, Caldwell County, Tex. June to Sept. 1919 Transitman,

W. E. Simpson Co., Kimble County, Tex., transit and level on highway location, office on alignment, laying grades, and quantities. June to Sept. 1920 Instrumentman, Gulf Refining Co. of Houston, Tex., surveying and pipe-line location, Chf. of Party on location. *TT 2.3: SP 2.3.* Oct. 1920 to June 1921 with Bryant & Huffman as Fieldman (over 6 months), Res. Engr. in charge of construction of gravel road and 15 miles second-class highway; then in charge construction of State highway in Denton County, Tex. (under T. E. Huffman). *TT 0.7: SP 0.7.* Jan. to June 1922 Asst. Engr. with Nagle-Witt-Rollins, Stephens County, Tex., in charge of construction of 18 miles of road (under Res. Engr.) *TT 0.4: P 0.4: RC 0.4.* June 1922 to May 1923 (during school year) Draftsman, Jno. P. Miller Blue Print Co. of Austin, Tex., correcting and getting up plans on State and Federal Aid highway projects. *TT 0.2: P 0.2.* Dec. 1923 to April 1924 Res. Engr., Hockley County, Tex., in complete charge of engineering and construction of 7 miles of State Highway. *TT 0.4: P 0.4: RC 0.4.* April 1924 to date Maintenance Supt., Div. No. 5, Texas State Highway Dept., in charge of maintenance of highways in twelve counties. *TT 0.1: P 0.1: RC 0.1.* *TT 4.1: SP 3: P 1.1: RC 0.9.* Refers to R. W. Baker, J. G. Rollins, W. E. Simpson, T. U. Taylor, W. O. Washington.

549 (1) GASTMEYER, ROBERT WILLIAM, 2 Rector St., New York City. (Age 34. Born Brooklyn, N. Y.) 1911 C. E., Cornell Univ. June 1911 to Feb. 1912 with Hay Foundry & Iron Works, Newark, N. J., detailing steel for shop fabrication. *TT 2.6: SP 2.6: D 0.6.* Feb. to July 1912 with Post & McCord, New York City, detailing steel for shop fabrication. *TT 0.4: SP 0.4: D 0.4.* July 1912 to Dec. 1915 with New York Central R. R., Office of Engr. of Structures, Exterior Zone, New York City; designed highway and railroad bridges; made special investigations of existing structures for reinforcing; Asst. in charge of special operation of heavy power; approved designs of transmission line crossings and siding structures. *TT 5.5: P 5.5: RC 1: D 2.5.* Jan. 1916 to April 1918 with Chile Exploration Co., Constr. Dept., New York City; designed industrial buildings and structures, electric transmission lines, aerial tramway; Structural Engr. in charge of steel design, covering industrial buildings, trestles, ore bins, substations, gantry cranes, etc.; supervised work of Steel Design Squad. *TT 2.3: P 2.3: RC 2: D 0.3.* April to Oct. 1918 with U. S. Army, Air Service, McCook Field, Dayton, Ohio; Tech. Asst. to French Aviation Mission to U. S. Army; designed airplanes; assisted in design of Lepere Plane. *TT 0.6: P 0.6: RC 0.6.* Oct. 1918 to March 1922 with J. G. White Management Corporation, New York City, management of Brewster & Co., Long Island City, Automobile Mfrs., industrial management, Asst. Chf. Engr., supervised design and production of automobile chassis and bodies. *TT 3.5: P 3.5: RC 3.5.* May 1922 to July 1923 Structural Engr., Constr. Dept., H. L. Doherty & Co., New York City; designed power houses, bins and industrial buildings; in charge of Structural Design Squad; supervised design of all concrete and steel structures. *TT 1.2: P 1.2: RC 0.7: D 0.5.* July 1924 to date Mgr. of New York office, Pittsburgh (Pa.) Bridge & Iron Works, in full charge of all design and sales work of company in eastern territory. *TT 0.7: P 0.7: RC 0.7.* *TT 14.9: SP 3: P 11.9: RC 8.6: D 4.3.* Refers to J. H. Edwards, C. R. Harding, C. A. McCollough, C. E. Payne, Z. H. Sikes, H. T. Welty, G. B. Woodruff.

550 (1) GILBERT, CHARLES BAKER, 318 West 108th St., New York City. (Age 48. Born Philadelphia, Pa.) 1902 completed course in structural engineering, International Correspondence Schools, Scranton, Pa. 1902 to 1906 Detailer, engineering work, Crane Dept., Niles-Bement-Pond Co., Philadelphia, Pa. *TT 4: SP 2: P 2.* 1906 to 1907 Detailer, Baltimore (Md.) Bridge Co. *TT 1: P 1.* 1907 to 1910 Detailer and Checker, Niles Crane Dept. *TT 3: P 3.* 1910 to 1911 Detailer, Schuylkill Bridge Co., Pottstown, Pa. *TT 1: P 1.* 1911 to 1913 Detailer and Checker, Belmont Iron Works. *TT 2: P 2.* 1913 to 1915 Detailer, Milliken Bros., New York City. *TT 2: P 2.* 1915 to 1917 Designer and Checker, Crane Dept., Niles-Bement-Pond Co. *TT 2: P 2: RC 2: D 2.* 1917 to 1919 Detailer and Checker, Hinkle Iron Co., New York City. *TT 2: P 2.* 1919 to 1924 Designer, Checker and Expert on complicated details, Niles Crane Dept. *TT 5: P 5: D 5.* *TT 22: SP 2: P 20: RC 2: D 7.* Refers to K. Berle, A. A. Casani, C. D. Conklin, Jr., J. H. Flichthorn, F. Meister, J. G. Shryock.

551 (5) GLEISSNER, MAXIMILIAN JUSTIN, Care, U. S. Geological Survey, Washington, D. C. (Age 34. Born Brooklyn, N. Y.) 1912 Diplom Ingenieur, and 1913 Doktor Ingenieur, Technische Hochschule "Fridericiana" at Karlsruhe, Germany. 1913-1914 took post-graduate course in Forest Eng. and Lumbering at Syracuse Univ. June to Aug. of years 1911 and 1912 sub-professional work at various places for Forest Dept. of Baden, Germany. *TT 0.4: SP 0.4.* March 1914 to Dec. 1915 Asst. to F. R. Meier, Cons. Forester, New York City, office work, mapping and computations, field work, in charge of smaller parties in mapping and

timber estimating. *TT 1.8: P 1.8: RC 1.* Jan. 1916 to Aug. 1917 Forester for Julius Forstmann, in charge of development of 4000-acre private forest and game preserve in Catskill Mts., N. Y. *TT 1.7: P 1.7: RC 1.7.* Sept. 1917 to May 1918 miscellaneous smaller jobs of forest engineering work. *TT 0.7: P 0.7: RC 0.5.* May 1918 to date (except July-Sept. 1919 Forest Asst., Forest Service Coeur d'Alene National Forest, independent work in silvi-culture and mensuration) with U. S. Geological Survey, until July 1919 as Jun. Topographer; Sept. 1919-July 1920 Asst. Topographer, independent work on primary traverse and topographic mapping; since July 1920 Asst. Topographic Engr., 2½ years in Hawaii, in charge topographic field party, also independent work in California, Colorado, Texas and West Virginia. *TT 6: P 6: RC 5.* *TT 10.6: SP 0.4: P 10.2: RC 8.2.* Refers to C. H. Birdseye, F. A. Danforth, T. G. Gerdine, C. L. Nelson, G. S. Smith, F. Sutton.

552 (4) GODFREY, WILLIAM B. Ivy Cottage, Strathmere, N. J. (Age 38. Born Madison, Kans.) 1906 to 1910 (3 years) student in Civ. Eng., Univ. of Washington. June 1910 to Jan. 1912 Deputy County Engr., Port Townsend, Wash., instrument work on road location and construction, also office computation and drafting. *TT 2.5: SP 1: P 1.5.* Sept. 1912 to March 1913 Jun. Topographer, U. S. Geological Survey, Recorder on primary traverse, triangulation and levels. *TT 0.5: SP 0.5.* March to May 1913 Draftsman, Oro Elec. Co., California. *TT 0.3: P 0.3.* May to Aug. 1913 Chf. of Party, The Lewis Colony, Templeton, Cal., topographic surveying for hydro-electric site and land subdivision; in charge of survey camp. *TT 0.3: P 0.3: RC 0.2.* Aug. 1913 to Oct. 1914 Draftsman, topographic, The Panama Canal, and Transitman, Div. of Landscape Archt. on layout and construction of streets, buildings, sewers, etc., in Balboa, Canal Zone. *TT 1.2: P 1.2: RC 1.* Oct. 1914 to Sept. 1915 Levelman, Sec. of Surveys, Panama Canal, Chf. of Party on land surveys, precise levels and triangulation. Sept. 1915 to Dec. 1917 Transitman, same Section, in charge of field surveys of from one to three parties on precise level and triangulation surveys and survey of international boundary. *TT 3.1: P 3.1: RC 2.3.* Dec. 1917 to Nov. 1919 Lieut. of Engrs., 602d Engrs., U. S. Army, 1 year in France on road and bridge construction. *TT 1.9: P 1.9: RC 1.* Nov. 1919 to Oct. 1923 Jun. Engr., Sec. of Surveys, Panama Canal, precise level and triangulation surveys, also in charge of survey camps of from one to four parties on international boundary surveys and on important topographic surveys for large hydro-electric project. 1922 and 1923 (while on vacation) Engr., Panama Gulf Oil Co., on surveys involving stellar and solar observations for latitude, longitude and azimuth. *TT 3.9: P 3.9: RC 3.9.* Oct. 1923 to date Jun. Eng., Div. of Mun. Eng., Panama Canal, making surveys, designs, estimates and specifications for municipal work, such as pipe lines, pump stations, reservoirs, roads, sidewalks, culverts, retaining walls, etc., in Canal Zone and City of Panama; at present on leave of absence. *TT 0.7: P 0.7: RC 0.4: D 0.3.* *TT 14.4: SP 1.5: P 12.9: RC 8.8: D 0.3.* Refers to H. T. Cory, R. C. Hardman, O. E. Malsbury, J. J. Morrow, M. L. Walker.

553 (5) GORDON, ARTHUR FRANKLIN, 118 Chestnut Ave., Takoma Park, D. C. (Age 48. Born Terre Haute, Ind.) 1897 B. S., Rose Pol. Inst. June to Oct. 1897 electrical construction, wiring buildings, etc., Townley Bros., Terre Haute, Ind. Oct. 1897 to Feb. 1899 in office of Standard Wheel Co., Terre Haute, office work. *TT 3.6: SP 3.6.* Feb. 1899 to March 1900 Rodman, Chicago & Eastern Illinois R. R., and in shops at Danville, Ill., as Electrician in charge of electrical plant and electric headlights. *TT 1.1: P 1.1: RC 0.8.* March to Oct. 1900 Draftsman with Heyl & Patterson, and Oct. 1900 to Feb. 1902 Draftsman with S. V. Huber, Cons. Engr., Pittsburgh, Pa. *TT 1.9: SP 1.9.* Feb. 1902 to July 1907 Squad Boss in drafting office, McClintic-Marshall Constr. Co., Pittsburgh, also (6 months) on field erection work as Constr. Engr. *TT 5.5: P 5.5: RC 5.5.* July to Sept. 1907 Checker in drafting office, John Eichleay, Jr., Co., Pittsburgh. *TT 0.2: P 0.2: RC 0.2.* Sept. 1907 to Jan. 1908 Chf. Draftsman, Union Iron Works Co., Cincinnati, Ohio, in charge of structural drafting office. *TT 0.3: P 0.3: RC 0.3.* Jan. to Aug. 1908 on general office work at Terre Haute, Ind. *TT 0.5: SP 0.5.* Aug. 1908 to May 1909 Draftsman in office of Signal Engr., Rock Island R. R. and 3 months Foreman in charge of construction in field, May 1909 to Feb. 1910 Draftsman with Jos. T. Ryerson Co., Chicago, Ill. *TT 1.6: SP 3: P 1.3: RC 0.5.* Feb. to April 1910 Checker, Pittsburgh Bridge & Iron Works, Rochester, Pa. April to Oct. 1910 Checker in drafting office, Ritter-Conley Mfg. Co., Pittsburgh, in charge of checking structural details for squad. Oct. 1910 to March 1911 Checker, drafting office, Dempsey Degner Co., Pittsburgh. *TT 1: P 1: RC 0.7.* March to June 1911 Structural Designer, Witherow Steel Co., Pittsburgh. *TT 0.3: P 0.3: RC 0.3.* June 1911 to April 1912 Checker in drafting office, American Bridge Co., Ambridge, Pa., on structural details for bridges. *TT 0.8: P 0.8: RC 0.8.* April 1912 to April 1916 Bridge Designer, Bureau of Bridges, Pittsburgh, designed Bloomfield Bridge and numerous other

structures. *TT 4: P 4: RC 4: D 4:* April 1916 to Oct. 1918 Asst. Chf. Engr., Bureau of Bldg. Inspection, Pittsburgh, reviewing and approving structural work erected. *TT 2.5: P 2.5: RC 2.5: D 2.5:* Oct. 1918 to Jan. 1919 Concrete Designer for munition plant on Neville Island near Pittsburgh. *TT 0.3: P 0.3: RC 0.3: D 0.3:* Jan. to June 1919 Structural Designer, Wierton (W. Va.) Steel Co., in charge of designing mill buildings and concrete work for new plant. *TT 0.5: P 0.5: RC 0.5: D 0.5:* June 1919 to date Senior Highway Bridge Engr., Bureau of Public Roads, Washington, D. C., in entire charge of all bridge designing and construction for bridges in Dist. No. 10 on Federal Aid Projects. *TT 5: P 5: RC 5: D 5:* *TT 29: SP 6.3: P 22.7: RC 21.4: D 12.3:* Refers to R. F. Eastham, W. R. Glidden, O. L. Grover, E. F. Kelley, J. V. McNary, V. M. Peirce, H. R. Thayer, T. J. Wilkerson.

554 (1) GORIA, HUBERT, 148 Eighty-eighth St., Brooklyn, N. Y. (Age 40. Born Turin, Italy.) 1902-1905 student, Eng. course, Univ. at Turin, Italy. 1905 to 1909 Direccion General de Ferros, Vera Cruz, Mexico, Constr. Dept., in charge of lighthouse buildings, design and construction. *TT 3.3: RC 3.3: D 3.3:* 1909 to 1911 in Eng. Dept., Cia Mexicana de Tramvias Electricos, Mexico City, on railroad location and construction. *TT 1.4: RC 1.4:* 1911 to 1913 Contr. on building construction in Mexico City, in charge of design and direction of the construction. 1913 to 1915 on design and direction of construction by contract, reinforced concrete building work in San Salvador. *TT 5: RC 5: D 5:* 1916 to 1919 with Italian Army. 1919 to 1921 traveling in Latin America. 1921 to 1923 with New York Edison Elec. Co., Survey Bureau, New York City, in drafting room. *TT 1.7:* March 1923 to date with H. L. Cooper Co., at Wilson Dam, East Florence, Ala., on reinforced concrete work in drafting room. *TT 1.1: TT 12.6: RC 9.7: D 8.3:* Refers to F. P. Fifer, J. W. Hall, J. F. Krakauer, J. D. Moore, C. A. Randorf.

555 (1) GRIEVE, JOHN, 120 Broadway, New York City. (Age 43. Born Edinburgh, Scotland.) 1898 graduated from Heriot Watt Coll. July 1898 to July 1903 with Waverly Eng. Works, Power Crane Bldrs. and Water Power Machinery, Edinburgh, Scotland, 2 years in drawing office, 1 year in machine shop, 1 year in fitting shop, and 1 year in erecting shops and on field construction. *TT 5: SP 3: P 2: RC 2:* July 1903 to Nov. 1905 Draftsman, George Russell & Sons, Crane Bldrs., Motherwell, Scotland. *TT 2.3: P 2.3: RC 1: D 1.3:* Nov. 1905 to Nov. 1906 Chf. Draftsman, Steel Co. of Scotland, Hallside Works. *TT 1: P 1: D 1:* Nov. 1906 to Aug. 1909 Draftsman and Constr. Engr., Lanarkshire Steel Co., Motherwell, Scotland. *TT 2.7: P 2.7: D 2.7:* Aug. 1909 to Nov. 1914 with Dominion Bridge Co., Ltd., Montreal, 1 year in Structural Detail Office, 1 1/10 years in Design Office, and 3 years in Contr. and Eng. Office. *TT 5.3: SP 1: P 4.3: RC 2.8: D 1.5:* Nov. 1914 to date Vice-Pres. and Gen. Mgr. of Sales, Dominion Paint Works, Ltd., Montreal, protection of steel structures. *TT 16.3: SP 4: P 12.3: RC 5.8: D 6.5:* Refers to J. L. Brower, C. R. Chadwick, S. J. Chapleau, W. H. Coverdale, J. M. R. Fairbairn, G. F. Porter, F. P. Shearwood.

556 (1) GROVES, EDGAR AUGUSTUS, 1439 University Ave., New York City. (Age 41. Born Birmingham, England.) April 1899 to March 1908 Pupil of Herbert Weldon, Birmingham, England, drafting, estimating, instrument work, office and field work; 3 terms (evenings) student at Birmingham Tech. School and Mason Coll. *TT 4: SP 4:* April to Sept. 1903 Asst. Engr., Pauling & Co., London, England, on preliminary survey for railroad in Benguela, Portuguese West Africa. *TT 0.5: P 0.5:* Nov. 1903 to Dec. 1904 Asst. Engr. with Walter Scott & Middleton, London, England, in charge of lines and grades on part of Great Northern & Strand Ry. (London Tubes), Cheltenham & Honeybourne Line-Gt. Western Ry.; 1 term (evenings) student, Kings Coll., London. *TT 1.2: P 1.2:* Feb. 1905 to July 1908 Asst. Supt., S. Pearson & Son, Long Island City, N. Y., on construction of four tunnels under East River for Pennsylvania Tunnel & Terminal R. R. Co. *TT 3.5: P 3.5: RC 3.5:* Oct. to Dec. 1908 Asst. Supt., Hudson & Manhattan R. R. Co., on construction of tunnels under Hudson River. *TT 0.2: P 0.2: RC 0.2:* Jan. 1909 to Jan. 1910 Engr., Chas. F. Fraser & Co., New York City, on construction of shaft, tunnel and buildings, Niagara Falls, N. Y., concrete bridge floors, Long Island City, concreting caissons of Pennsylvania East River Tunnels, New York (\$400 000). *TT 1.1: P 1.1: RC 1.1:* Feb. to April 1910 Engr., Mason & Hanger Co., Cornwall-on-Hudson, N. Y., on construction of Moodna Siphon, Contr. 20, for Board of Water Supply, New York City (\$3 300 000). *TT 0.2: P 0.2: RC 0.2:* May to Aug. 1910 Engr., Fraser, Brace & Co., New York City, deepening and widening Beauharnois Canal, Valleyfield, Canada (\$250 000). *TT 0.3: P 0.3: RC 0.3:* Sept. 1910 to July 1923 Chf. Engr. and Mgr., Mason & Hanger Co., New York City, on construction of Moodna Siphon, Contr. 20, and City Tunnel Contr. 63 (\$3 300 000 and \$3 800 000), for Board of Water Supply, New

York City; main intercepting sewer, Sec. 8, for Passaic Valley Sewer Comm., Newark, N. J. (\$240 000); two-track subway, New York, Route 8, Secs. 4 and 5, for Public Service Comm., 1st Dist. (\$3 100 000); tunnel in rock for Power Constr. Co., Whitingham, Vt. (\$1 400 000); Jan.-March Cons. Engr. with Mason & Hangar MacArthur Bros. Co., construction of Port Newark Terminal, Newark, N. J. (\$10 000 000). *TT 12.9: P 12.9: RC 12.9. TT 24: SP 5.7: P 18.3: RC 18.3.* Refers to J. J. Baker, J. H. Brace, C. E. Fraser, F. C. Hitchcock, F. Mason, R. Ridgway, A. J. Sackett, J. F. Sanborn, W. G. Sloan, W. E. Spear, W. E. Swift, B. H. Walt.

557 (3) GUERRY, RAYMOND MELL, Care, International Paper Co., Saranac, N. Y. (Age 36. Born Philadelphia, Pa.) 1912 B. S., Pa. State Coll. July 1912 to June 1913 Clerk of Works, with J. D. Bristol; Rodman and Transitman on construction of house, property surveys, road, etc. *TT 0.9.* June 1913 to April 1914 Inspector with W. G. Clark, on construction of road, retaining walls, stone arch bridges and sewer lines. *TT 0.8.* April to July 1914 Levelman, New York Municipal Ry. Corporation, in charge of party for grades on 6-mile open cut subway construction, concrete retaining walls, bridges and stations. *TT 0.3.* July 1914 to May 1916 Instrumentman, New York State Park Comm., in charge of party and on location and construction of macadam road, steel arch bridge, storage dams, etc. *TT 1.8.* May 1916 to May 1917 Asst. Engr., New York Steam Co., on location and construction of high-pressure (20-in.) steam mains. *TT 1: RC 1.* May 1917 Field Engr., Thompson-Starrett Co., topography and street layout for housing development. *TT 0.1.* June 1917 to July 1918 Engr. and Inspector, U. S. Ordnance Dept., on construction of two concrete storage warehouses, sewer and water system. *TT 1.1: RC 1.1.* July 1918 to Jan. 1920 Chf. of Party, U. S. Navy Dept., Bureau of Yards and Docks, on location, construction and final estimates of 14 miles of railroad, 2 miles concrete road, large property surveys, topography, street layout for housing development. *TT 1.5: RC 1.5.* Jan. to April 1920 Asst. Engr., Transit Constr. Comm., Draftsman on concrete and steel for subway. *TT 0.3.* April to Dec. 1920 Draftsman, New York Tunnel Comm., structural and topographic drawings for Hudson River Tunnel. *TT 0.6.* Dec. 1920 to Feb. 1923 Field Engr., Parklap Constr. Corporation, on construction of 50 000-h. p. hydro-electric development, 600-ft. concrete dam, $\frac{3}{4}$ mile of concrete-lined canal and plant. *TT 2.1: RC 2.1.* April to Aug. 1923 with Parsons, Klapp, Brinckerhoff & Douglas, New York City, taking off quantities and figuring costs for valuation report of Detroit City Gas Co. *TT 0.3.* Aug. to Nov. 1923 with Parklap Constr. Co., New York City, as Field Representative on construction of stone masonry bridge (about 200 ft.) purchasing and selling plant equipment, etc. *TT 0.3: RC 0.3.* Nov. 1923 to date Field Engr., International Paper Co., New York City, on construction of hydro-electric development (about \$1 000 000) at Saranac, N. Y. *TT 0.6: RC 0.6, TT 11.7: RC 6.6.* Refers to F. W. Barnes, F. D. Corliss, W. J. Douglas, H. M. Hale, G. Miller, H. L. Muchemore.

558 (11) GWILLIM, EDWARD CECIL, P. O. Box 130, Sheridan, Wyo. (Age 36. Born Monument, Colo.) 3 years student, Colo. Coll., and Colo. School of Mines. June 1910 to Aug. 1912 Inspector and Instrumentman on sewer, water and paving construction, City of Colorado Springs, Colo. *TT 2.2: P 2.2.* Aug. 1912 to March 1913 Engr. in charge of construction of water and sewer system, Town of Torrington, Wyo. *TT 0.6: P 0.6: RC 0.6.* March to Aug. 1913 Estimator and Foreman on water and sewer construction for J. S. Schwartz, Sewer and Water Contr. *TT 0.4: P 0.4.* Aug. 1913 to Jan. 1915 Asst. Engr. on sewer, water and paving construction, City of Great Falls, Mont. *TT 1.4: P 1.4: D 0.4.* April 1915 to Jan. 1916 Engr. in charge of construction of street paving for City of Sheridan, Wyo. *TT 0.7: P 0.7: RC 0.7.* Jan. 1916 to July 1918 County Engr. of Sheridan County, Wyo., in responsible charge of design and construction of roads and bridges; also Div. Engr. for State Highway Dept., Wyoming, in charge of location, and Cons. Engr. for City of Casper, Wyo., on paving and sewer construction. *TT 2.5: P 2.5: RC 2.2: D 0.3.* July 1918 to July 1919 with U. S. Army Engrs. *TT 1: P 1.* July 1919 to date City Engr. of Sheridan, Wyo., having charge of all design and construction of sewer, water, bridges and paving, also County Engr. for Sheridan County, in charge of design, construction and maintenance of county roads and bridges. *TT 5: P 5: RC 5. TT 13.8: P 13.8: RC 8.6: D 0.7.* Refers to J. B. Cleary, J. A. Crook, D. C. Fenstermaker, E. Gillette, W. C. Newel, R. E. Smith, H. M. Sprague, E. C. Van Diest, F. C. Williams.

559 (12) GWYTHYR, VALENTINE MACKENZIE WILLIAM, 1645 Eleventh Ave. W., Vancouver, B. C., Canada. (Age 24. Born Bedford, England.) 1924 B. A. Sc. in Civ. Eng., Univ. of B. C. May 1923 Rodman, Sidney E. Junkins Co., Ltd., Vancouver, B. C. *TT 2:*

SP 2. May to Sept. 1923 Instrumentman, City of Vancouver, on hydro-electric surveys. TT 2: SP 2. Refers to C. E. Blee, W. E. Duckering, E. G. Matheson, A. D. Wilder. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

560 (9) HAMILTON, RAYMOND TOMPKINS, 323 Y. M. C. A., Muncie, Ind. (Age 22. Born Norwood, Ohio.) 1924 B. S. in C. E., Purdue Univ. June 1924 to date Engr., Westwood Realty Co. of Muncie, Ind., on inspection of construction, checking profiles and lot dimensions and assisting in sewer design. TT 2: SP 2. Refers to E. L. Eriksen, W. K. Hatt, W. A. Knapp, C. O. Shively, R. B. Wiley.

561 (9) HAMMONS, RAY DEWITT, 809 Jackson St., Gary, Ind. (Age 38. Born Portland, Ind.) 1908 B. S. in C. E., and 1911 C. E., Purdue Univ. June to Nov. 1908 Concrete Inspector on construction of steel plant, Indiana Steel Co., Gary, Ind. TT 2.5: SP 2.5. Dec. 1908 to March 1909 Asst. Engr., drainage of Little Calumet River Lowlands, Lake and Porter Counties, Ind.; had charge of field work surveys and prepared plans and profiles. TT 0.3: SP 0.3. April to May 1909 Instrumentman for Guy Stinchfield, County Surveyor, Valparaiso, Ind. TT 0.2: SP 0.2. June to Sept. 1909 Instrumentman for Melton & Cutler, Engrs. TT 0.3: SP 0.3. Oct. 1909 to April 1918 with Eng. Dept., City of Gary, as Instrumentman, Chf. of field parties, Chf. Draftsman and Asst. Engr., on various kinds of municipal work, surveys, drafting, designing, inspecting and assessing public improvements, such as streets, alleys, sewers, parks, etc., and June and July 1919 with same Dept. as Street Inspector, inspecting concrete pavement. TT 8.9: SP 2.3: P 6.6: RC 3.2: D 3.4. Aug. to Nov. 1919 and May to Sept. 1920 Engr., Town of Hobart, Ind., on construction of concrete pavements. TT 0.3: P 0.3: RC 0.8. Dec. 1919 to April 1920 Engr., Gary Heat, Light & Water Co., had charge of installation of two new 16 000 000-gal. pumps, especially difficult foundation work. TT 0.4: P 0.4: RC 0.4. Oct. to Nov. 1920 Sewer Inspector, Eng. Dept., City of Gary TT 0.2: P 0.2: RC 0.2. Dec. 1920 to July 1921 with Illinois Steel Co., Gary, clerical work in merchant mill (not strictly engineering work.) TT 0.7: SP 0.7. Aug. to Nov. 1921 Engr., Town of East Gary, Ind., on construction of sewers. TT 0.4: P 0.4: RC 0.4. Jan. 1922 to June 1924 Chf. Draftsman, having charge of office work and designing of streets and sewers, Eng. Dept., City of Gary. TT 2.4: P 2.4: RC 1: D 1.4. Since Jan. 1924 also Constr. Engr. on \$350 000 drainage plant of Little Calumet River; first two months made the surveys. TT 0.2: P 0.2: RC 0.2. TT 17.3: SP 6.3: P 11: RC 6.2: D 4.8. Refers to F. W. Dencer, H. O. Garman, W. K. Hatt, A. P. Melton, R. Seely.

562 (2) HANLON, JAMES EDWARD, 80 Boylston St., Boston, Mass. (Age 33. Born Boston, Mass.) March 1906 to Aug. 1913 Rodman, Draftsman, Designer and Detailer, Lockwood, Greene & Co., Engrs., Boston, Mass. TT 4.5: SP 3: P 1.5: RC 1.5. Aug. 1913 to May 1914 Engr. with James E. McLaughlin, Archt. (now McLaughlin & Burr), Boston, mostly on schools, also an armory costing about \$600 000. TT 0.8: P 0.8: RC 0.8: D 0.8. May to Sept. 1914 Engr. with Harry S. Coombs, Archt., Lewiston, Me., mostly municipal work, included designing and drafting. TT 0.3: P 0.3: RC 0.3: D 0.3. Sept. 1914 to Aug. 1918 Engr. with James E. McLaughlin, designing and drafting. TT 4: P 4: RC 4: D 4. Aug. 1918 to Jan. 1919 with Bay State St. Ry. Co. (B. H. Donham, Receiver) (now Eastern Massachusetts St. Ry. Co.), designing coal pockets, wharves, car houses, etc., includes drafting. TT 0.3: P 0.3: RC 0.3. Jan. 1919 to March 1920 Engr. with Desmond & Lord, Archts., Boston, municipal and hotel work, included office building (to cost \$730 000), designing and drafting. TT 1.3: P 1.3: RC 1.3: D 1.3. March 1920 to Sept. 1922 with Lockwood, Greene & Co., New Architectural Dept., about 8 months under Chf. then Chf., schools, community buildings, office building (cost about \$600 000) and miscellaneous work. TT 2.5: P 2.5: RC 1.8: D 2.5. Sept. 1922 to date in private practice at Boston, design, plans, investigations and reports, criticisms of plans and specifications, field inspection; majority of work consists of furnishing structural design to architects, and checking other engineers. Expert witness, as Engr., in civil suit involving \$53 000; Structural Engr. on Boston's standard School recently developed; directed design of construction of buildings costing approx. \$10 000 000. TT 1.5: P 1.5: RC 1.5: D 1.5. TT 15.2: SP 3: P 12.2: RC 11.5: D 10.4. Refers to G. H. Brazer, H. E. Cousins, C. R. Gow, H. C. Shells, W. P. Snow, G. F. Temple, R. A. Thayer.

563 (8) HARDESTY, JAMES MARION, 220 Engineering Hall, Urbana, Ill. (Age 23. Born Cleburne, Tex.) 1923 B. S., Univ. of Tex. June to Sept. 1922 Rodman on canal location, Wichita County Water Improvement Co. June to Sept. 1923 Instrumentman on street railway construction, Ft. Worth office, Stone & Webster. Sept. 1923 to date (22 hours each week) Research Asst. in Structural Eng., Eng. Experiment Station, Univ. of Illinois. TT 3: SP 2: P 1. Refers to E. C. H. Bantel, H. Cross, M. L. Enger, T. U. Taylor, C. C. Williams, W. M. Wilson.

564 (3) **HARDING, CLIFFORD LEON**, 58 Ninth St., Troy, N. Y. (Age 21. Born Spring Valley, N. Y.) 1924 C. E., Rens. Pol. Inst. TT 2: SP 2. Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, W. W. Rousseau, E. A. Touceda.

565 (1) **HARNEY, FRANCIS VINCENT**, 201 East 30th St., New York City. (Age 31. Born New York City.) 1916 completed course in Architecture at Mechanics Inst., New York City. Aug. 1916 to Jan. 1917 Estimator of materials for construction, W. H. Fissell & Co., New York City. TT 0.3: SP 0.3. April to Dec. 1917 Estimator of labor and materials in construction, Standard Bldgs., Inc., New York City. TT 0.7: P 0.7. Dec. 1917 to Feb. 1919 Army Engr., U. S. Army, estimating quantities of materials, construction work and design. TT 1.1: SP 0.1: P 1: D 0.1. April 1919 to Feb. 1923 Estimator, Constr. Supt. and on design, Valentine Lynck & Co., Inc., New York City. Sept. 1919 to Feb. 1921 also student, Extension Course in Civ. Eng., Columbia Univ. TT 3.8: P 3.8: RC 2: D 0.8. Feb. 1923 to date member of firm, O'Sullivan-Harney Co., Inc., Bldrs., New York City, on all classes of construction except bridges and highways. TT 1.2: P 1.2: RC 1.2. TT 7.4: SP 0.4: P 6.7: RC 3.2: D 0.9. Refers to J. M. Marion, M. Meyers, F. H. Nygren, H. M. Weitzner, F. H. Wright.

566 (11) **HARNISH, CORNELIUS PRUGH**, 300 N. Almansor St., Alhambra, Cal. (Age 32. Born Butler, Pa.) 1915 B. S. in San. Eng., Univ. of Pittsburgh. July 1916 to Feb. 1918 Eng. Asst. with Morris Knowles, Inc., Engrs., Pennsylvania, on investigations, computations and design of sewerage and drainage works in connection with projects of Essex Border Utilities Dist., Ontario, Canadian Steel Corporation, Ojibway, Ontario, and Buckeye Land Co., Youngstown, Ohio. TT 3.6: SP 2: P 1.6: D 1.6. Feb. 1918 to Jan. 1919 with U. S. Army. Feb. 1919 to date with Olmsted & Gillelen, Civ. Engrs., Los Angeles and San Francisco, Cal., 2½ years as Asst. Engr. in charge of San Francisco office with responsible charge of water-works construction, Martinez, Cal., design and construction of water-works improvements at Hayward, Cal., Water-works appraisal, Roseville, Cal., miscellaneous reports and investigations; since Jan. 1922 member of firm with responsible charge of investigations, report, design and construction of irrigation system, South Montebello Irrigation Dist., Los Angeles County, Cal.; report to City of Santa Monica, Cal., on waterworks improvements; miscellaneous investigations and reports on sewerage and water-works improvements. TT 5.1: P 5.1: RC 5.1. TT 8.7: SP 2: P 6.7: RC 5.1: D 1.6. Refers to G. W. Case, F. Gillelen, R. A. Hill, J. N. Irving, M. Knowles, F. H. Olmsted, O. A. Stone.

567 (1) **HAWTHORNE, THOMAS**, Care, Engr.-in-Chf., Port au Prince, Haiti. (Age 41. Born Corvallis, Ore.) 1902 to 1905 Student, Civ. Eng. course, Univ. of Oregon. Summers Rodman, Chainman and Levelman, U. S. Reclamation Service. TT 1.5: SP 1.5. May 1905 to Aug. 1910 with U. S. Reclamation Service, until March 1907 as Eng. Aid, acting as Levelman, Transitman on canal location, Planetableman, Draftsman and Concrete Inspector on Umatilla Project, Ore.; then Jun. Engr., engineering work on construction of Cold Springs Dam, Umatilla Project, in charge of construction camp, Klamath Project, Ore., canals, structures and levees for Clear Lake Reservoir. TT 5.2: SP 2.8: P 2.4: RC 2: D 0.4. Aug. 1910 to Feb. 1913 in private practice of engineering, Ontario and Portland, Ore., city surveying, irrigation projects, surveys, designs and estimates; made adjudication survey of Chewaucan River System in Oregon for State Engr. TT 2.5: P 2.5: RC 2: D 0.6. Feb. 1913 to Nov. 1921 Asst. Engr., U. S. Reclamation Service, engaged as follows: Feb. 1913 to May 1914 in charge of field work, irrigable area survey of Deschutes Basin, Ore. (cooperative work with State of Oregon); May 1914 to Sept. 1917 on west extension of Umatilla Project, in charge of engineering and construction of 10 000-acre project with concrete-lined canals and concrete structures; operated project about 2 years; Sept. 1917 to Nov. 1918 on Rio Grande Project, Tex.; in charge of department on relocation and reconstruction of El Paso Valley canals and laterals, including canal excavation, concrete and timber structures and concrete canal lining; Nov. 1918 to Nov. 1921 on Newlands Project, Nev., in charge of project drainage investigations, surveys, designs and estimates and on miscellaneous irrigation surveys and reports. TT 8.8: P 8.8: RC 6.8: D 2.3. Nov. 1921 to date Director of Irrigation and River Control, Republic of Haiti, Treaty Engr. on staff of Engr.-in-Chf. of Haiti, directing operation, maintenance and construction of all irrigation projects, investigation, design and construction of new projects, irrigation policies and water laws; also directing improvements to navigation and flood control of rivers. TT 2.6: P 2.6: RC 2.6: D 1. TT 20.6: SP 4.3: P 16.3: RC 13.4: D 4.3. Refers to L. M. Lawson, J. H. Lewis, H. D. Newell, A. L. Parsons, J. F. Richardson, G. Stubblefield, J. T. Whistler.

568 (15) HEINS, FRANK CONRAD, Box 562, Laredo, Tex. (Age 27. Born Marinette, Wis.). 1913 B. S. C. E., Tri-State Coll. of Eng. May to Oct. 1913 Chairman with C. A. Tetley, Beaumont, Tex., also acting as Rodman. *TT 2.4; SP 2.4.* Nov. 1913 to Nov. 1914 Rodman, Calcasieu Parish, La.; Rodman, Instrumentman on line, levels and cross-section; also drafting and cement testing in office; later Concrete Inspector, Gravel Inspector, etc. *TT 1: SP 1.* Nov. 1914 to Jan. 1915 Rodman with Frank Shutts, Lake Charles, La. *TT 0.3: SP 0.3.* Feb. to July 1915 Rodman, Long-Bell Lumber Co., Lake Charles. *TT 0.6: SP 0.6.* Dec. 1915 to April 1916 Sewer Inspector, City of Beaumont, Tex., in full charge on ditch of 9 miles of 6-in. to 15-in. sanitary sewer, giving grades, alignment, testing pipe, etc. *TT 0.4: SP 0.4.* May 1916 to Sept. 1917, Instrumentman with C. A. Tetley, private practice, laying out subdivisions, and surveys; also included \$40,000 shell road in Orange County, Tex., and reclamation work (1200 acres). *TT 1.8: SP 1.8.* Oct. 1917 to May 1918 Res. Engr. with Wilder & O'Neal, Houston, Tex., on preliminary, location and construction of 40 miles of sand-clay roads in San Augustine County, Tex. *TT 0.7: SP 0.7.* May 1918 to July 1919 Corporal, 315th Engrs., 90th Div. Aug. 1919 to Aug. 1920 Res. Engr., Jefferson County, Tex.; Office Engr. on drafting, taking care of estimates and general office work; later Res. Engr. on 6 miles of inverted asphalt macadam road. *TT 1: P 1: RC 1.* Aug. 1920 to Oct. 1921 Office Engr., Johnston County, Tex., Whiteaker & Washington, Engrs., on design and construction of \$2,000,000 bridge and highway system involving State and Federal Aid projects. *TT 1.2: P 1.2: RC 1.2.* Nov. 1921 to May 1922 Asst. County Engr., Webb County, Tex., on construction of 35 miles of gravel road with concrete bridges, in charge of field parties. *TT 0.6: P 0.6: RC 0.6.* June 1922 to date Asst. Paving Engr., City of Laredo, Tex., on \$700,000 paving program, including 8 miles of storm sewers; general municipal practice; in charge field parties; computations, estimates, etc.; in office between construction jobs. *TT 2: P 2: RC 2.* *TT 1.8: SP 7.2: P 4.8: RC 4.8.* Refers to S. F. Crecelius, L. S. Hereford, R. S. Quick, O. A. Seward, Jr., C. H. Sweetser, W. O. Washington, R. O. Whiteaker.

569 (2) HEWSON, JOSEPH SELDEN, 177 Victoria St., Amherst, N. S., Canada. (Age 26. Born Amherst, N. S., Canada.) 1924 B. Sc. in Civ. Eng., Nova Scotia Tech. Coll. 3 years military service in England and in France. May to Sept. 1921 Rodman and Gravel Inspector, and May to Sept. of years 1922 and 1923 Instrumentman, Nova Scotia Prov. Highways Board, last 5 months in charge of 5% mile contract for highway construction and improvement, laying out the work, supervising construction, computing quantities, making out progress estimates, etc. *TT 2: SP 2.* (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

570 (1) HILDABRAND, CARL, Asia Development Co., Ltd., 3 Canton Rd., Shanghai, China. (Age 35. Born Wilmet, Mich.) Sept. 1910 to April 1912 Asst. to County Surveyor, Tuscola County, Mich.; also contracting on drainage work. *TT 1.6: SP 1.6.* April 1912 to May 1913 Chairman and Instrumentman, Bay County Constr. Co., Mich. *TT 1.1: SP 1.1.* May 1913 to April 1914 with Julius K. Widder, Gen. Bldr. and Contr., Sheboygan Falls, Wis., first as workman, later foreman of construction crew. *TT 0.9: SP 0.5: P 0.4.* April 1914 to June 1915 with U. S. Army Engrs., assisted on survey of Galveston and Texas City (Tex.) Harbors; also with topographical survey of Ft. Sill, Okla. *TT 1.1: SP 1.1.* June 1915 to April 1919 with 27th and 15th U. S. Infantry Regiments, some minor military field engineering. April 1919 to April 1921 Constr. Supt., Standard Oil Co. of New York, at Shanghai, China, supervised erection of various structures, including residences, office buildings, warehouses and wharves; also some minor designing. *TT 2: P 2: RC 0.8: D 0.2.* April to Dec. 1921 Chf. Engr. on Frenchowfu-Yellow River Motor Road (84 miles long; cost \$1,200,000), Shansi Province, China, having charge of design and erection of bridges and culverts and of all rock and earthwork. *TT 0.7: P 0.7: RC 0.6: D 0.1.* Jan. to April 1922 Engr., Chinese Foreign Famine Relief Committee, Hankow, China, in charge of dyke construction on Yangtse River in Hupeh Province, China (cost of work \$300,000). *TT 0.2: P 0.2: RC 0.2.* April 1922 to date with Asia Development Co., Ltd., Shanghai, first 4 months as Chf. Engr. on 70-mile motor road in Shantung Province, China, and since then at Shanghai office in charge of drafting room and on field investigations, involving reclamation or transportation problems; 4 months Acting Mgr. *TT 2.1: P 2.1: RC 0.9.* *TT 9.7: SP 4.3: P 5.4: RC 2.5: D 0.3.* Refers to H. P. Hart, R. L. Larson, P. W. Mack, L. F. Patstone, H. A. Raider, O. J. Todd, P. P. Whitham.

571 (5) HILL, HIBBERT MOSSE, U. S. Coast and Geodetic Survey, Washington, D. C. (Age 23. Born Boston, Mass.) 1923 B. S. in C. E., Univ. of Minn. June to Sept. 1921 Laborer, Gauger-Korsmo Constr. Co., St. Paul, Minn.; Timekeeper, Instrumentman, Foreman

in charge of placing reinforcing. *TT 2: SP 2.* June 1923 to date successively, Jun. Engr., Aid, and Jun. Hydrographic and Geodetic Engr., U. S. Coast and Geodetic Survey, Washington, D. C., on geodetic surveying. *TT 0.8: SP 0.3: P 0.5. TT 2.8: SP 2.3: P 0.5.* Refers to F. Bass, W. Bowie, A. S. Cutler, P. C. Gauger, C. V. Hodgson, O. M. Leland, J. Senior.

572 (7) HILL, LLOYD ROBERT, 514 Benjamin St., Ann Arbor, Mich. (Age 28. Born Avon Lake, Ohio.) 1924 B. S. in C. E., Univ. of Mich. *TT 2: SP 2.* Refers to A. H. Blanchard, J. H. Cissel, L. M. Gram, H. E. Riggs, R. S. Swinton.

573 (1) HIRSCHHORN, LOUIS NATHAN, 456 Bedford Ave., Brooklyn, N. Y. (Age 22. Born in Austria.) 1923 B. S. in C. E., N. Y. Univ. Summers 1919-1922 and since graduation Gen. Mgr., Michnoff Bros., Brooklyn, N. Y., planning, billing, etc. *TT 3: SP 2.1: P 0.9: RC 0.9.* Refers to H. E. Breed, A. Haring, E. G. Hooper, C. T. Schwarze, C. H. Snow.

574 (1) HOWARD, HENRY GEORGE, Care, Cia Chilena de Electricidad, Casilla 1557, Santiago, Chile. (Age 40. Born Andover, England.) 1906 student, Armour Inst. of Technology (evening course). 1909 and 1910 Special Student, Univ. of California. 1904 to 1911 minor work with Canadian Pacific Ry., surveying; Bay Counties Power Co., Colgate, Cal., construction; Chicago Edison Co., electrical and mechanical construction; Mexican Light & Power Co., operation and construction; and Pacific Gas & Elec. Co., testing, operation and construction. *TT 7.* 1911 to 1912 Supt., electrical construction, 1912 to 1913 Supt., distribution, and 1914 to 1915 Gen. Supt., Mexican Light & Power & Tramway Co. *TT 5: RC 5.* 1915 to 1919 Major, Field Artillery, British Army, in France and Mesopotamia. *TT 4: RC 1.8.* 1919 to 1922 Asst. Chf. Elec. Engr., and 1922 to 1923 Chf. Elec. Engr., Mexican Light & Power & Tramway Co. *TT 3: RC 3.* 1923 to 1924 Chf. Elec. Engr., and 1924 to date Chf. Engr., Cia Chilena de Electricidad, Ltd. *TT 1.5: RC 1.5. TT 20.5: RC 11.3.* Refers to C. D. Ashbrook, A. W. K. Billings, J. G. Hollman, C. A. Lee, J. Tonkin-Thomas.

575 (2) HOWE, JEROME WILLARD, 34 Hudson St., Worcester, Mass. (Age 37. Born Worcester, Mass.) 1909 B. S. in Civ. Eng., Worcester Pol. Inst. July to Sept. of years 1907 and 1908 Rodman, Office of City Engr., Worcester, Mass. July to Sept. 1909 and Aug. to Sept. 1910 Instrumentman on surveys for hydro-electric development, Wendell River, Mass. *TT 2.2: SP 2.2.* Sept. 1909 to July 1911 Instructor in Civ. Eng., Pennsylvania Military Coll., Chester, Pa. *TT 1.8: P 1.8.* Sept. 1911 to Dec. 1912 Draftsman, Phoenix Bridge Co., Phoenixville, Pa. *TT 1.3: SP 1.3.* April 1913 to Oct. 1923 Officer of Cavalry, U. S. Army (Regular), successively as 2d Lieut., 1st Lieut., Capt. and Major; acted as Aide-de-Camp to Commanding General of Cavalry Advance throughout Punitive Expedition into Mexico (1916); Regimental Quartermaster (Supply Officer) on march out of Mexico to Ft. Huachuca, Ariz. (1917); Student Officer at School of Fire for Field Artillery, Ft. Sill, Okla., graduating in gunnery (1918); in charge of Fire Claims, Div. of Rents, Reclamations and Claims, A. E. F., Paris (1919); Post Quartermaster (Supply Officer, Transportation Officer, etc.), Ft. Huachuca, Ariz. (1920); on staff of Chf. of Cavalry, Secy.-Treas. of U. S. Cavalry Association and Editor, *Cavalry Journal*, Washington, D. C. (1921-1923). Oct. 1923 to date Editor, *The Wireless Age*, New York City. *TT 5.3: SP 1.5: P 1.8.* Refers to R. B. H. Begg, R. W. Burpee, A. D. Filinn, A. W. French, A. J. Knight, C. E. Learned, R. E. Spaulding.

576 (13) HUBER, EARL RAYMOND, Care, Nevada, California Power Co., Leevining Creek Plant No. 1, Benton, Cal. (Age 22. Born Zamora, Cal.) 1924 B. S. in C. E., Coll. of Civ. Eng., Univ. of Cal. May to Aug. 1921, and June to Aug. of years 1922 and 1923 Rodman, Chairman, etc., Pacific Gas & Elec. Co. on hydro-electric developments. May 1924 to date Eng. Asst., Nevada California Power Co., on hydro-electric power developments on Leevining Creek. *TT 2: SP 2.* Refers to R. E. Davis, H. D. Dewell, B. A. Etcheverry, F. H. Fowler, W. L. Huber, C. G. Hyde.

577 (1) HUSSEY, HAROLD DUDLEY, 30 Church St., New York City. (Age 35. Born Topsfield, Mass.) 1911 B. S. in Struct. Engr., Tufts Coll. July 1911 to June 1916 Draftsman, American Bridge Co., Elmira, N. Y.; Detailer of steel bridges and buildings; Designer of general details. *TT 7: SP 5: P 2.* Nov. 1916 to July 1918 Checker of steel details of bridges and buildings, McClintic-Marshall Constr. Co., Pottstown, Pa. *TT 1.6: SP 1.6.* July to Nov. 1918 Designer, Monks & Johnson, Engrs. and Archts., Boston, Mass., in Philadelphia office; on reinforced concrete and steel buildings, in charge of structural steel details. *TT 0.4: P 0.4: RC 0.4: D 0.4.* June to Nov. 1916 and Nov. 1918 to May 1920 Designer

of steel, timber and reinforced concrete bridges and masonry piers and abutments, estimates and investigations, Boston & Maine R. R., Boston. *TT 1.9: P 1.9: D 1.9.* May 1920 to date Asst. Engr., American Bridge Co., Designing Office, New York City; Designer of steel railroad and highway bridges, estimates and investigations, Designer of cantilever bridge over Parana River, Brazil; on tender design for cantilever bridge at Sydney Harbor, Sydney, Australia. *TT 4: P 4: RC 4: D 4.* *TT 14.9: SP 6.6: P 8.3: RC 4.4: D 6.3.* Refers to B. W. Guppy, O. E. Hovey, S. J. Ott, H. W. Preston, E. H. Rockwell, J. E. Wadsworth.

578 (10) JAMES, CARL, Alabama Power Co., Birmingham, Ala. (Age 41. Born Pittsfield, Ill.) 1907 B. S. in C. E., Univ. of Ill. June 1907 to Dec. 1908 Rodman and Instrumentman, Pennsylvania Tunnels under East River, in charge of survey parties. *TT 3.5: SP 3.5.* 1909 Asst. Chf. Inspector, Detroit River Tunnels for Michigan Central R. R., in charge of inspection of concrete, tunnel excavation and water-proofing. *TT 1: SP 1.* 1910 Asst. Engr., Algoma Steel Co., Sault Ste. Marie, Canada, on construction of concrete foundations. *TT 1: P 1: RC 1.* Jan. 1911 to Sept. 1912 Chf. of Survey Party and Chf. of Inspection, grade separation work, Kansas City (Mo.) Terminal Ry. *TT 1.7: P 1.7: RC 1.7.* Oct. to Dec. 1912 City Engr. of Marshall, Mo., laying out and inspecting concrete road and preparing plans and specifications for sewer system. *TT 0.3: P 0.3: RC 0.3.* Jan. 1913 to Sept. 1915 Asst. Engr., Alabama Power Co., 1½ years as Statistician and Cost Engr. on construction of hydro-electric power development, including steam plant and transmission lines, 1 year Office Mgr. for Operating Mgr. *TT 2.7: P 2.7: RC 2.7.* Oct. 1915 to July 1918 with T. A. Gillespie Co. on contracts for manufacture of complete rounds of munitions, principally purchasing contract parts and arranging deliveries to assembling factories. *TT 2.9: P 2.9: RC 2.9.* Aug. 1918 to June 1919 Treas., T. A. Gillespie Loading Co., in charge of pay rolls and payments of bills, accounting, etc., for about \$1 500 000 worth of construction work per month. July 1919 to Jan. 1920 Treas. of an automobile sales company. July 1920 to Sept. 1922 Office Engr., Wood-Hulse-Yates Co., New York City, on consulting engineering and construction work. *TT 2.2: P 2.2: RC 1.2: D 1.1.* Oct. 1922 to June 1923 Engr. in charge of designing and construction of \$200 000 club house for Union Investment & Contr. Co. *TT 0.8: P 0.8: RC 0.4: D 0.4.* July 1923 to date Asst. Chf. Engr., Alabama Power Co., in charge of power studies, investigations and designs. *TT 0.8: P 0.8: RC 0.4: D 0.4.* *TT 16.9: SP 4.5: P 12.4: RC 10.6: D 1.9.* Refers to E. J. Mehren, R. S. Moore, A. C. Polk, F. A. Prullt, O. G. Thurlow, S. H. Woodard, E. A. Yates.

579 (10) JAMES, ROGER THOMAS, 1706 Elizabeth Ave., Charlotte, N. C. (Age 37. Born Round Hill, Va.) Registered Civ. Engr. in North Carolina and South Carolina. 1906 B. A., Roanoke Coll., Salem, Va. Sept. 1906 to July 1909 Rodman, etc., and finally Acting Res. Engr. on construction, Carolina, Clinchfield & Ohio R. R. *TT 2.8: RC 0.2.* July to Oct. 1909 Instrumentman on water power and irrigation projects in Colorado and Wyoming. *TT 0.2.* Oct. 1909 to Nov. 1910 Draftsman, Leveler and Transitman, and May 1911 to Nov. 1913 Instrumentman Oregon Short Line R. R. *TT 3.6.* Jan. to March 1911 with Howe & Wise, Civ. Engrs., Houston, Tex., ornamental lettering, drafting, surveying. *TT 0.2.* March to May 1911 Draftsman on transmission-line and power-dam working plans, J. G. White Co., Cleveland, Tenn. *TT 0.2: D 0.1.* Jan. to Aug. 1914 with Utah Copper Co. and Bingham & Garfield R. R., designing buildings, trestles, yard layouts, and Draftsman on Interstate Commerce Comm. maps and profiles. *TT 0.6: D 0.4.* Aug. 1914 to Aug. 1918 with Southern Ry., until Jan. 1915 as Draftsman on double-track relocation and construction, estimates, etc., then Asst. Engr. on main line double-track location, in charge of sections, Charlottesville-Watts and Westminster-Tugaloo River (approx. cost \$1 500 000) and in Dist. Office designing reinforced concrete arches and bridges. *TT 4: RC 2.9: D 0.7.* Aug. to Sept. 1918 construction drafting, U. S. War Dept., Raritan Arsenal, N. J. Sept. 1918 to Feb. 1921 Asst. Engr., Southern Ry., on double-track construction, in charge of section, Bessemer City-Blacksburg (approx. cost \$900 000) and of completion grading, underpasses, bridges, final estimates and completion reports, Charlotte-Blacksburg (approx. cost \$100 000). *TT 2.5: P 2.1: D 0.3.* Feb. 1921 to March 1923 Res. Engr., North Carolina State Highway Comm., in charge of road location (45 miles) and construction (\$650 000). *TT 2.1: RC 2.1.* March 1923 to date in private practice; from March to May 1923 located, designed yard and bridges and supervised construction of heavy freight industrial railroad for R. C. Belk Sand Co.; May to July 1923 surveys, plans, contract, specifications, supervised construction of street improvement, Cornelius, N. C.; July to Sept. 1923 made 200-acre stadia topographical survey and map; located and supervised construction of large stone crushing plant with side tracks; Sept. to Oct. 1923 located, grade staked; designed railroad underpass, 2 miles industrial railroad for Kendrick Brick Tile Co.; Oct. to Dec. 1923 property and topographical survey of town of Mt. Holley; map and profiles, established grade of all streets for paving, sidewalks

and drainage; prepared estimate of cost; Dec. 1923 to Jan. 1924 topographical survey and road locations for North Carolina State Sanitorium (400 acres), map; since Jan. 1924 Engr. of Constr. on Ford Motor Co.'s assembly plant (74 acres, main building 301' by 800 ft., approx. cost \$550 000). TT 1.3: RC 1.3: D 0.2. TT 17.5: RC 8.6: D 1.7. Refers to O. B. Bestor, C. K. Conard, B. L. Crenshaw, E. M. Durham, Jr., H. R. Faison, J. J. Gantt, L. M. Ross, W. Speed, H. Stringfellow.

580 (5) JOHNSON, CHARLES REID, Care, Bureau of Yards and Docks, Navy Dept., Washington, D. C. (Age 33. Born Baltimore, Md.) 1913 C. E., Cornell Univ. June to Oct. 1912 Instrumentman, Baltimore City Water Supply project at Loch Raven, Md. TT 2: SP 2. July 1913 to Aug. 1914 Draftsman, American Bridge Co., Edge Moor (Del.) Plant, tracing, detailing, designing and checking bridge and elevated railway details, etc. TT 1: SP 1. Sept. 1914 to June 1917 Asst. Engr., Valuation Dept., Southern Ry., Washington, D. C., surveying and mapping, transit and level work, topography, cross-sections, valuation, appraisal of property, field and office, in office charge of all field parties for last year. TT 2.8: SP 0.8: P 2: RC 1. June to Dec. 1917 Engr., American Ry. Association, Special Committee for National Defence, in responsible charge of all track layouts, and facilities at all National Army and National Guard camp sites. TT 0.5: P 0.5: RC 0.5. Jan. 1918 to date with U. S. Navy, with Civ. Engr. Corps over 1 month at Annapolis, Md., in training; Feb. 1918 to Oct. 1919 with Public Works Dept., Naval Operating Base, Hampton Roads, Va., 10 months as Office Supt. and 11 months Field Supt., First Asst. to Public Works Officer during construction of largest Navy training camp and operating base, including training camp buildings, roads and streets, power house, water supply, sewers and drainage, storehouses, cold storage plants, quay-walls, piers, bulkheads, aviation structures, etc. (total expenditure about \$13 000 000); Nov. 1919 to May 1921 with Public Works Dept. Submarine Base, New London, Conn., Asst. to Public Works Officer, in direct charge of all contracts, including large distributing system installation (\$300 000); design and execution of all yard labor projects, including erection of buildings, construction of concrete walks and roads, improvement to drainage and sewer system, etc.; May 1921 to Oct. 1922 Public Works Officer, on same work; Oct. 1922 to date Public Works Officer, Govt. of Virgin Islands; also Aide for public work, staff of Governor of Virgin Islands; in charge of all public works and public utilities in Virgin Islands, including design, construction and maintenance (annual budget, including naval station, for Public Works Dept., \$95 000); has designed water supply for St. Thomas and work has been begun (\$300 000 project). TT 6.3: P 6.3: RC 6.3: D 5.5. TT 12.6: SP 3.8: P 8.8: RC 7.8: D 5.5. Refers to C. A. Carlson, G. Church, L. E. Gregory, F. R. Harris, D. W. Lum, H. N. Rodenbaugh, R. M. Warfield, E. B. Whitman.

581 (6) JONES, RALPH EDSON, 22 First Ave., Greenville, Pa. (Age 28. Born Falconer, N. Y.) 1921 B. S. in Civ. Eng., Univ. of Mich. Nov. 1921 to Nov. 1922 Structural Draftsman, Pittsburgh-Des Moines Steel Co., 6 months detailing and 6 months checking. TT 3: SP 2: P 1. Nov. 1922 to March 1923 Draftsman, Pittsburgh (Pa.) Div., Pennsylvania R. R. Co., field and office work. TT 0.3: P 0.3: D 0.3. March 1923 to date Structural Draftsman, Bessemer & Lake Erie R. R. Co., Greenville, Pa., designing and detailing structural work, including bridges and buildings. TT 1.2: P 1.2: D 1.2. TT 4.5: SP 2: P 2.5: D 1.5. Refers to J. H. Cissel, I. D. Goodwin, F. Henderson, F. R. S. Layng, W. S. McFetridge, H. T. Porter, R. S. Swinton.

582 (14) KEIRLE, CLIFFORD CHARLES, Broadway Hotel, Sparta, Ill. (Age 33. Born Omaha, Nebr.) 1914 B. S. in C. E., Univ. of Nebr. June 1914 to Oct. 1917 Vice-Pres., Keirle Constr. Co., in charge of road building in Douglas and Sory Counties, Nebr. TT 5.3: SP 2: P 3.3: RC 3.3. Oct. 1917 to July 1919 Sergeant in 341st Machine Gun Battery, 89th Div., Camp Funston, France. TT 1.8. July 1919 to date with Bruce & Grupe, Cons. Engrs., Omaha, Nebr., as Res. Engr. at Nebraska City, Osceola, Fullerton, Stromesburg, Polk, and Plattsmouth, Nebr., and Sparta, Ill. TT 4.9: P 4.9: RC 4.9: D 1.5. TT 12: SP 2: P 8.2: RC 8.2: D 1.5. Refers to R. B. Brooks, J. A. Bruce, H. E. Cotton, D. L. Erickson, E. Y. Grupe, Jr., G. T. Prince.

583 (1) KERSHAW, PHILLIP FRANK, 1262 Gates Ave., Brooklyn, N. Y. (Age 30. Born in Russia.) 1923 S. B., Mass. Inst. Tech. July 1923 to April 1924 with Lockwood, Green & Co., Inc., Boston, Mass., 4 months in Eng. Appraising Dept., appraising field and office work, 1½ months surveying, transit work, Eng. Dept., field work, and last 4 months engineering appraising, field work. TT 2.8: SP 2.3: P 0.5. Refers to J. B. Babcock, 3d, H. K. Barrows, H. L. Bowman, J. W. Howard, C. M. Spofford.

584 (1) KHAN, SHABBIR AHMAD, Public Works Dept., Mohalla Katra, Rampur State, U. P., India. (Age 39. Born Moradabad, India.) Jan. 1903 to July 1905 Draftsman (Apprentice and Asst.), Alwar State Public Works Dept. July to Nov. 1905 Municipal Overseer for Pres. Alwar Municipality for Municipal Committee, on supervision of cleaning of wells, construction of buildings, preparation of estimates, surveys and drawings. Nov. 1905 to May 1907 Surveyor under State Engr., Public Works Dept., Alwar State, responsible charge of survey work. *TT 4.2: SP 4.2.* June 1907 to date with Public Works Dept., Rampur State, as Sub-Divisional Officer (or Asst. Engr.); over 5 years in charge of a sub-division, responsible for design and construction of number of important bridges and roads; since April 1924 Executive Engr. *TT 16.9: P 16.9: RC 11: D 5.9. TT 21: SP 4.2: P 16.9: RC 11: D 5.9.* (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

585 (5) KIMBELL, RICHARD GUY, 2331 Cathedral Ave., Washington, D. C. (Age 29. Born Saunemin, Ill.) March 1912 to Feb. 1914 with Arthur J. Rich & Co., as Draftsman, Chf. Draftsman, Supt., and Constr. Mgr. having supervision of design and construction of buildings, estimating, purchasing of materials and letting of contracts. *TT 1.9: SP 1.9.* Feb. to Aug. 1914 Field Engr. and Inspector, Livingston County (Ill.) Supervisors, major highway bridge construction, supervision 500-ft. 3-arch reinforced concrete highway river bridge. *TT 0.5: SP 0.5.* Aug. to Oct. 1914 Instrumentman with Burton J. Ashley, Chicago, Ill. *TT 0.2: SP 0.2.* Oct. 1914 to Feb. 1917 Constr. Mgr., Arthur J. Rich & Co., Chicago, during this time associated with Carl Hoermann, Archt., in building design. *TT 2.3: SP 1: P 1.3: RC 1.3: D 0.4.* Feb. to Sept. 1917 in charge of design and construction, A. E. Westman & Son, Chicago. *TT 0.6: P 0.6: RC 0.4: D 0.2.* Sept. 1917 to April 1919 Asst. to Officer in charge of building construction and maintenance, U. S. Army, Utilities Dept., Constr. Div., at Camp Grant, Ill. *TT 1.6: SP 0.2: P 1.4: RC 0.8: D 0.6.* April to Oct. 1919 Architectural Consultant and Constr. Mgr., A. E. Westman & Son. *TT 0.5: P 0.5: RC 0.5.* Oct. 1919 to date Architectural Engr., National Lumber Mfrs. Association, analyses, drafting and revision of municipal building codes, research study lumber construction, preparation of specifications and standards, technical literature for engineers and architects. *TT 4.7: SP 0.6: P 4.1: RC 3.7: D 0.4. TT 12.3: SP 4.4: P 7.9: RC 6.7: D 1.6.* Refers to J. A. Ferguson, J. E. Grimes, J. P. Healy, C. J. Hogue, D. F. Holtman, R. P. Miller, C. E. Paul.

586 (8) KNOWLTON, STEPHEN BAILEY, 802 West Park Ave., Champaign, Ill. (Age 54. Born Westborough, Mass.) Took partial course in Mech. Eng., Worcester Polytechnic Inst. 1890 to 1891 Mech. Draftsman, structural engineering details, Harris Corliss Eng. Co., Providence, R. I. *TT 0.9: SP 0.9.* 1891 to 1896 Draftsman (mechanical-structural), Chf. Draftsman (mechanical), Washburn & Moen Mfg. Co., Worcester, Mass., rolling mills, power plants, steel mill buildings, machinery, power transmission, etc. *TT 5.1: SP 3: P 2.1: D 2.1.* 1896 to 1898 (except about 1 month Structural Draftsman, Boston Transit Comm.) with Norcross Bros., Worcester, over 2 months as Structural Draftsman on City Hall Building, and 1½ years Structural Draftsman and Designer, So. Station Terminal, Boston, Rhode Island Capital Bldg., Providence, etc. *TT 1.9: SP 1.3: P 0.6: D 0.6.* 1898 to 1899 Bridge Draftsman, Survey Bureau, Philadelphia. *TT 0.9: SP 0.9.* 1899 to 1900 Mech. Draftsman, Cramp's Ship Yard, Philadelphia, marine engine details, steering gears for battleship, etc. *TT 0.9: SP 0.9.* 1900 to 1902 Bridge Draftsman and Designer, Survey Bureau, Philadelphia, design and estimate for elevated structure for Philadelphia & Reading R. R. along Ninth St. *TT 2.3: SP 0.3: P 2: D 2.* 1902 to 1905 Bridge Draftsman and Designer, Pennsylvania R. R. Co., Philadelphia, railway and highway bridges, locomotive shops, etc. *TT 2.8: SP 1: P 1.8: D 1.8.* 1905 to 1907 Bridge Designer, State Engr.'s Office, Albany, N. Y., reviewed designs for bridges (railway and highway) built in the State, also designs for Barge Canal crossings, etc. *TT 1.7: P 1.7: D 0.7.* 1907 to 1921 Asst. Engr. (Bridges), New York, New Haven & Hartford R. R. Co., New Haven, Conn., supervision of designs for highway and railway bridges, both fixed and movable, mechanical and electrical operating equipment for, and general supervision of erection of, these. *TT 13.9: P 13.9: RC 5.9: D 4.* 1921 Asst. Engr., Asst. Chf. Draftsman, Strauss Bascule Bridge Co., Chicago, Ill., general plans for movable bridges of Strauss type with mechanical and electrical operating equipment; also preliminary studies, estimates, specifications, etc. *TT 0.8: P 0.8.* 1921 to 1923 Asst. Engr., Structural Div., The San. Dist. of Chicago, review of designs for three double-leaf highway bascule bridges over San. District's Canal at Chicago, steel superstructure, reinforced concrete substructure piers, mechanical and electrical equipment, specifications, etc. *TT 1.3: P 1.3.* 1923 Chf. Draftsman, Arnold Co., Chicago, mill building, railroad terminal, power-plant design, specifications, reinforced concrete roundhouse, office building, etc.; also executive work. *TT 0.8: P 0.8: RC 0.8.* 1923 to date Structural Engr., Univ. of Illinois, structural work

in connection with designs for building extension program. TT 0.7: P 0.7: RC 0.7. TT 3.4: SP 3.3: P 25.7: RC 7.4: D 11.2. Refers to W. R. Davis, H. C. Elton, W. E. Ingram, H. R. Leonard, S. T. Wagner, G. S. Webster.

587 (5) KRAMER, LEO, 402 Transportation Bldg., Washington, D. C. (Age 34. Born Peoria, Ill.) Sept. 1906 to June 1908 student, Bradley Polytechnic Inst., Peoria, Ill. July 1908 to May 1909 Draftsman, and June 1909 to Jan. 1911 Supt. for H. Wittekind, Archt., Chicago, Ill. TT 2.5: SP 2.5. Feb. 1911 to March 1913 Estimator, and April 1913 to Feb. 1919 Supt., E. M. Bent Co., Gen. Contr., Chicago, especially on heavy timber construction and mill construction. TT 8: SP 2.1: P 5.9: RC 5.9. March 1919 to Dec. 1920 Field Advisor, and Jan. 1921 to date in charge of Bldg. Code Bureau of National Lumber Mfrs. Association, acting in advisory capacity to cities on city regulations of building construction. TT 5.1: SP 1.8: P 3.3: RC 3.3. TT 15.6: SP 6.4: P 9.2: RC 9.2. Refers to C. J. Hogue, D. F. Holtman, R. P. Miller, C. E. Paul, G. E. Strehan.

588 (1) KURTZ, ROBERTO, Alsina 436, Buenos Aires, Argentine Republic. (Age 46. Born Campana, Argentine Republic.) May 1905 to Nov. 1906 Asst. Engr., Dept. of Via y Obras, Constr. Sec., Buenos Aires Western Ry. Co. TT 1.5: SP 1.5. Dec. 1906 to Nov. 1907 Prin. Inspector, Permanent Way Dept., Compania General de Ferros Carriles de la Provincia de Buenos Aires. TT 0.9: P 0.9. March 1908 to Oct. 1909 Asst. Engr., Permanent Way Dept., Main Constr. Sec., Buenos Aires Western Ry. Co. TT 1.5: P 1.5. Oct. 1909 to Jan. 1911 3d Class Engr., Jan. to July 1911 2d Class Engr., and July 1911 to March 1917 1st Class Engr. in charge of section, Highway Dept., Dept. of Public Works, National Govt. TT 7.3: P 7.3: RC 5.5. Oct. 1919 to Dec. 1920 designing water supply and sanitary works for City of Asuncion, Paraguay. TT 1.2: P 1.2: D 1.2. Dec. 1922 to April 1924 Contr. of roads and bridges. TT 1.3: P 1.3: RC 1.3. 1924 Delegate from Argentina, Pan-American Highway Comm. TT 13.7: SP 1.5: P 12.2: RC 6.8: D 1.2. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

589 (3) LAMPRECHT, JOSEPH, 222 Genesee St., Utica, N. Y. (Age 34. Born Philadelphia, Pa.) 1921 C. E. Rens. Pol. Inst. March to Dec. 1907 Rodman, Pennsylvania R. R. Jan. to June 1908 Rodman and Instrumentman, Southern Pacific R. R. TT 3.2: SP 3.2. April 1909 to Sept. 1912 with Div. Engr.'s office, Santa Fe R. R., San Bernardino, Cal., until April 1911 as Rodman, Instrumentman and Draftsman, then Chf. of Party and Chf. Draftsman, on maintenance and construction, in entire charge of drafting. TT 3.3: SP 2: P 1.3: RC 1.3. June 1914 to April 1915 Inspector, Highway Dept., Philadelphia, highway and street construction and maintenance. TT 0.8: SP 0.8. April 1915 to Sept. 1919 Jun. Civ. Engr., Interstate Commerce Comm., Washington, D. C., railroad valuation work in field; Asst. to Field Engr. TT 4.3: P 4.3. June 1921 to May 1922 Asst. Engr., Highway Dept., New York State; Inspector, highway construction, Watertown, N. Y. TT 0.9: SP 0.9. May 1922 to date Asst. Engr., Utica (N. Y.) Gas & Elec. Co., in direct charge of all work in Eng. Dept. (under Engr.). TT 2: P 2: RC 2: D 2. TT 14.6: SP 6.9: P 7.7: RC 3.3: D 2. Refers to H. R. Beebe, C. C. Covert, A. W. Harrington, W. W. Rousseau, B. E. White.

590 (11) LANE, DWIGHT ARNOLD, P. O. Box 497, Los Angeles, Cal. (Age 27. Born Boise, Idaho.) Nov. 1916 to Nov. 1917 Chairman, Water Dept., Los Angeles, Cal. TT 1: SP 1. Nov. 1917 to April 1919 Corporal, Co. C, 26th Engrs., U. S. Army, A. E. F., 4 months in charge of field party on Mesas-Buley Base Hospital, including water and sewer lines, buildings, railway line and surveys; also on installation of water system, Meuse-Argonne Drive. TT 1.4: SP 1.1: P 0.3: RC 0.3. April 1919 to date with Water Dept., Los Angeles, until Oct. 1919 as Transitman, topographic surveys and water-works construction; then Draftsman, progress and cost data, gauging streams and canals, statistics of water supply and consumption for city; and since Sept. 1922 on special investigations and studies, field investigation, mapping and presenting in court of ground-water flow for proving water rights; field survey of ground-water in Western Coastal-Plain of Southern California; complete study of cost of irrigation of water and presenting in court; design and cost estimates of complete water-distribution systems for annexed territory of Los Angeles City. TT 4.8: SP 3.4: P 1.4: RC 1.4. TT 7.2: SP 5.5: SP 1.7: RC 1.7. Refers to A. R. Arledge, E. A. Bayley, H. F. Blaney, W. W. Hurlbut, H. L. Jacques, W. Mulholland, A. L. Sonderogger, H. A. Van Norman.

591 (7) LARSON, HARRY, R. F. D. No. 1, Callender, Iowa. (Age 29. Born Gardner, Ill.) 1924 B. S., Iowa State Coll. June to Sept. 1922 Rodman and Instrumentman on drainage project, Albert Lea Farms Co. April to Aug. 1923 Inspector on bridges and

culverts, Iowa Highway Comm. Aug. to Oct. 1923 Asst. Project Engr., Missouri Highway Comm. TT 2: SP 2. Refers to T. R. Agg, R. A. Caghey, A. H. Fuller, J. H. Griffith, A. Marston, C. S. Nichols.

592 (3) LAUTZ, MARTIN WILLIAM, 64 Inwood Pl., Buffalo, N. Y. (Age 38. Born Buffalo, N. Y.) Student, C. E. Course, Princeton Univ. (1904 to 1907), and special course, Massachusetts Inst. of Technology (1907 to 1908). June to Sept. 1903 Chairman, Pennsylvania R. R. June to Sept. 1905 Chairman, Lackawanna (N. Y.) Steel Co. June to Oct. 1906 Rodman, C. C. Conkling & Co., Cons. Engrs., Buffalo, N. Y. TT 2.1. 1908 to 1914 Asst. Engr., Frederick K. Wing Co., Buffalo, on field work as Chf. of Party in responsible charge of surveys for sewer systems, townsites, electric railways, etc.; Res. Engr. in responsible charge of \$100 000 sewer and disposal plant construction, East Aurora, N. Y.; on office work preparing and supervising preparation of land survey maps, title searches, plans and estimates of municipal sewer systems, disposal plants, electric railway lines, and expert testimony in court. TT 6: RC 5: D 1. 1915 to 1922 Asst. Engr., Lackawanna Steel Co., Steel Sheet Piling Dept., compilation and collection of data for engineering studies; design of steel sheet piling structures, coffer dams, dock walls, subaqueous foundations, shore protection, underpinning, sewers, dams, shaft; miscellaneous concrete steel and timber construction; appliances for handling steel sheet piling. TT 7: D 7. 1922 to date Designing Engr., Bureau of Water, Filtration Div., Buffalo, responsible for concrete design on \$5 000 000 filtration plant; in responsible charge of inspection of work. TT 2: RC 1: D 2. TT 17.1: RC 6: D 10. Refers to J. L. Ames, G. C. Andrews, C. S. Boardman, C. D. Parsons, G. F. Unger, F. K. Wing.

593 (9) LEACH, WALTER LEWIS, 648 Leader-News Bldg., Cleveland, Ohio. (Age 24. Born Medina, Ohio.) June to Sept. 1918 Rodman and Tracer, and Dec. 1918 to Feb. 1920 Instrumentman and Chf. of Party on surveys; also Draftsman, with Medina County surveyor, at Medina, Ohio. Oct. to Dec. 1918 Private, U. S. Army. TT 1.4: SP 0.8: P 0.6. Feb. to April 1920 with Griebel & Ebeling, Archts., Cleveland, Ohio, on supervision of construction on Ninth Garage Bldg., Cleveland. TT 0.2: P 0.2. April 1920 to Sept. 1921 with Div. of Eng., Subdiv. Sewage Disposal, Cleveland, on drawings and design for Easterly and Westerly Sewage Treatment Works; overtime on private work for G. B. Gascoigne. TT 1.4: SP 1.4. Sept. 1921 to June 1922 and Oct. 1923 to June 1924 student in Civ. Eng., Ohio State Univ. TT 0.6: SP 0.6. June 1922 to Sept. 1923 with Geo. B. Gascoigne, Cons. Engr., Cleveland, on design and drawings of sewage-treatment works for Marion, Euclid Village, Cedar Point, etc., storm and sanitary sewer layouts for Ashtabula and Marion, Ohio; since June 1924 with G. B. Gascoigne. TT 1.3: P 1.3. TT 5: SP 2.9: P 2.1. Refers to A. A. Burger, G. B. Gascoigne, W. L. Havens, A. G. Husted, M. F. Stein.

594 (1) LEE, DONOVAN HENRY, Harewood House, Hanover Sq., London, W. I., England (Temporary address, 518 Union St., Schenectady, N. Y.) (Age 24. Born London, England.) 1923 B. Sc. in Eng., Univ. of London, Kings Coll. Oct. 1915 to July 1918 Draftsman in New Works Dept. of Great Eastern Ry. Eng. Dept. TT 4: SP 4. July 1918 to Jan. 1919 in Royal Air Force School of Aeronautics and training as Pilot. Jan. 1919 to Nov. 1920 with G. E. Ry., until May 1919 surveying and leveling on Eastern Div., setting out new works regrading, etc., then Asst. preparing new standards, designs of switches and on general track work, checking levels of buildings over underground railway workings at Liverpool St. Terminal. TT 1.9: SP 1.9. Nov. 1920 to Jan. 1921 visiting Spanish railways. Jan. 1921 to July 1923 student, Univ. of London. Aug. to Dec. 1923 designing concrete machinery, steel framing, gearing for concrete fence post manufacturing machine and similar work TT 0.4: P 0.4: D 0.4. Jan. to March 1924 experimental work on rail joints, testing improved designs and taking deflectometer diagrams, etc. TT 0.2: P 0.2: D 0.2. At present with American Locomotive Co., Schenectady, N. Y. TT 6.5: SP 5.9: P 0.6: D 0.6. Refers to W. G. Coughlin, W. C. Cushing. (Applies in accordance with Sec. 1, Art. I of the By-Laws.)

595 (7) LEON, BIRGER, 800 Marquette Bldg., Detroit, Mich. (Age 37. Born Fjellbacka, Sweden.) 1908 graduated from Chalmers Tech. Inst., Gothenburgh, Sweden. 1912 to 1915 Draftsman and Supt. of Constr. with Wilson & Herrald, Archts. and Structural Engrs., Edmonton, Alberta, Canada. TT 3: SP 2: P 1. 1915 to 1916 Instrumentman and Field Draftsman, Edmonton, Dunvegan & British Columbia Ry. TT 0.7: SP 0.7. Jan. 1916 to April 1919 Structural Steel Designer and Constr. Supt., Dominion Sugar Co., Chatham, Ont., Canada, in charge of alterations and additions. TT 3.3: SP 0.5: P 2.3: RC 2.8. Aug. 1919 to April 1922 in charge of construction of concrete industrial buildings, with Bernard H. Prack, Pittsburgh, Pa. TT 2.7: P 2.7: RC 2.7. May to Nov. 1922 in charge

of Structural Dept., with Allison & Allison, Archts., Los Angeles, Cal. TT 0.7: P 0.7: RC 0.7. Dec. 1922 to date Head of Structural Dept., Smith, Hinchman & Grylls, Detroit, Mich. TT 1.5: P 1.5: RC 1.5. TT 11.9: SP 3.2: P 8.7: RC 7.7. Refers to T. H. Hinchman, L. R. Hoffman, A. E. Prack, B. H. Prack, F. L. Smith, C. E. Stilson, W. S. Wolfe.

596 (1) LEVITT, CHARLES ARNOLD, 506 Monroe St., Brooklyn, N. Y. (Age 36. Born in Russia.) 1911 B. E., Cooper Union. July 1911 to Dec. 1912 on concrete design, suburban level platforms for New York Central R. R. Grand Central Terminal Improvements. TT 2.5: SP 2.5. Jan. to Sept. 1913 on structural steel details for mill and office buildings and miscellaneous iron, Levering & Garrigues Co., New York City. TT 0.7: P 0.7: D 0.7. Oct. 1913 to May 1914 with Jobson Gifford Co., New York City, on designs and details for electrification of New York, New Haven & Hartford R. R. Co., New York to Stamford, Conn. TT 0.7: SP 0.7. May 1914 to Feb. 1915 Structural Detailer, mill and office buildings, F. A. Burdett & Co. TT 0.7: P 0.7: D 0.7. March to Dec. 1915 with New England Structural Co., Everett, Mass., on structural designs for Braves Baseball Park, Boston, Mass. TT 0.7: P 0.7: D 0.7. Jan. 1916 to March 1917 structural details, mill buildings, Levering & Garrigues Co. TT 1.2: P 1.2: D 1.2. May 1917 to March 1918 with Guarantee Constr. Co., New York City, on conveyor and coal-handling machinery designs for Philadelphia Navy Yard. TT 0.7: P 0.7: D 0.7. April 1918 to May 1920 with U. S. Shipping Board, New York City, in full charge of machinery installation in Ferris type ships and in charge of 100-ft. harbor tugs, 2d Dist., work comprising continual visits to ten shipyards, locating engines by means of transit and level and checking up alignment of general installation, particular attention being paid to main engines and auxiliaries. TT 2.1: P 2.1: RC 2.1. June 1920 to Aug. 1921 in charge of works, including designs of steel and handling of Eng. Dept., Kings County Iron Works, Brooklyn. TT 1.2: P 1.2: RC 1.2. March 1923 to date with Cutler Iron Works, Brooklyn, in charge of Eng. Dept., includes designs and supervision of all work; in charge of Abraham & Straus Improvement. TT 1: P 1: RC 1: D 1. TT 11.8: SP 3.2: P 8.6: RC 4.4: D 5.2. Refers to K. Berle, F. A. Burdett, S. Herzig, H. Nagin, M. Thompson, S. C. Welskopf.

597 (9) LICHTER, JACOB, Care, Asher Fireproofing Co., 938 B. F. Keith Bldg., Cleveland, Ohio. (Age 26. Born New York City.) 1919 B. S., Mass. Inst. Tech. July 1914 to May 1917 with Pennsylvania Lines, Akron Div., until May 1915 as Trackman, then Signal Repairman, and after Dec. 1915 Asst. on Engr. Corps, Rodman, Instrumentman and Draftsman. TT 4.8: SP 4.8. May to Oct. 1917 Field Engr. and Constr. Inspector, Hunkin-Conkey Constr. Co., Cleveland, Ohio, on steel and reinforced concrete plant for Firestone Tire & Rubber Co. TT 0.4: SP 0.4. May to Sept. 1918 Aeronautical Mech. Engr., Bureau of Military Aeronautics, U. S. War Dept., in charge of design, detailing and supervised construction of special apparatus for instruction of aviators. TT 0.4: SP 0.1: P 0.3: RC 0.3: D 0.3. Jan. to March 1919 Asst. Instructor in Civ. Eng., Massachusetts Inst. of Technology. TT 0.3: P 0.3. April to July 1919 Structural Engr., Miller Rubber Co., Akron, Ohio, designing, estimating and inspecting construction of additions and changes in buildings and equipment. TT 0.3: P 0.3: D 0.2. July 1919 to Feb. 1920 Estimator and Planner of building changes and additions, and Feb. 1920 to Feb. 1921 Asst. Supt. and later Supt. of construction of industrial buildings, flat slab and structural steel (\$4 000 000), B. F. Goodrich Co., Akron. TT 1.5: P 1.5: RC 0.3: D 0.1. Feb. 1922 to April 1924 Concrete Designer, Cleveland Union Terminals Co., designing, detailing and estimating retaining walls, bridges, buildings, tunnels, heavy foundations, underpinning. TT 2.2: P 2.2: D 2.2. At various times on private work for real-estate developers, allotment and subdivision design and layout. TT 0.5: P 0.5: RC 0.3: D 0.2. At present Estimator, Asher Fireproofing Co., Cleveland. TT 10.4: SP 5.3: P 5.1: RC 0.9: D 3. Refers to F. E. Ayer, C. B. Breed, C. S. Carroll, L. J. Johnson, H. Kercher, C. M. Spofford, G. F. Swain.

598 (1) LOPEZ, ARMANDO MACIAS, Contreras No. 34, Altos, Matanzas, Cuba. (Age 37. Born Havana, Cuba.) 1909 C. E., and 1919 Archt., Univ. of Havana. March 1909 to April 1910 with Smith & Davis as Transitman and Inspector on railroad construction. TT 3.1: SP 3.1. May 1910 to Aug. 1919 with Dept. of Public Works, Dist. of Matanzas, first as Asst. Engr., 1st Class, making surveys for highways as Chf. of Party; after Aug. 1910 Engr., 2d Class, making complete plans, estimates and specifications for various kinds of work, such as highways, streets, small water-works, bridges and buildings, and later supervising construction of this work, and deciding in field on suitability of materials, bearing power of soils, redesign of foundations, methods, and other work of Res. Engr.; in 1914 designed and supervised Sanchez Figueras Bridge, over San Juan River, in Matanzas (reinforced concrete arch of 155-ft. span, with suspended floor and horizontal tie); in 1918

designed another arch bridge to span the Canal del Roque (132 ft.). TT 9.2: P 9.2: RC 9: D 9. Sept. 1919 to Aug. 1920 designing and constructing lime plant of Compania Calera de Matanzas. TT 1: P 1: RC 1: D 0.5. Sept. 1920 to June 1921 Designing Engr. with Arellano y Mendoza, Gen. Contrs., designing and estimating all kinds of work, especially design of reinforced concrete wharves for Havana Harbor. TT 0.9: P 0.9: RC 0.9: D 0.9. Aug. to Dec. 1921 Director of two small electric light plants in Madruga y Catalina, chiefly administrative work. TT 0.3: P 0.3: RC 0.3. Jan. to April 1922, Jan. to March 1923 and July to Oct. 1923 in private practice as Archt. on plans and specifications for buildings and supervising construction. TT 0.9: P 0.9: RC 0.9: D 0.3. May to Nov. 1922 and April to June 1923 with Compania Hidroeléctrica de Matanzas, repairing various washouts in power canal, and in charge of technical side during absence of Director. TT 0.8: P 0.8: RC 0.8: D 0.4. Nov. 1923 to date Engr., 1st Class, Dept. of Public Works, Dist. of Matanzas, on same work as from Aug. 1910 to Aug. 1919, made plans for a reinforced concrete highway beam bridge (72-ft. span). TT 0.6: P 0.6: RC 0.6: D 0.6. TT 16.8: SP 3.1: P 13.7: RC 13.5: D 11.7. Refers to C. C. Fitzgerald, F. J. Gaston, A. A. Ibarguen y Pi, J. D. Montero, J. R. Villalon.

599 (5) LUCK, CHARLES MERLE, 1617 Brooke Avenue, Richmond, Va. (Age 30. Born Golansville, Va.) 1912 and 1913 student, Randolph-Macon Coll., Ashland, Va. Summers 1908, 1909 and 1910 Rodman, T. Crawford Redd & Bros., Engrs., Richmond, Va. Summer 1911 Instrumentman, Richmond-Fredericksburg & Potomac R. R. Summers 1912 to 1914 with C. S. Luck, Gen. Contr., on construction. TT 1: SP 1. 1915 to Dec. 1917 Gen. Foreman and Asst. Supt. on highway, street and railroad work, C. S. Luck & Sons, Richmond. TT 2: SP 0.5: P 1.5: RC 1.5. Dec. 1917 to Dec. 1918 Private, Aviation Sec., Sergeant, 1st Class, 2d Lieut. and 1st Lieut., Engrs., U. S. Army; Dec. 1918 to date member of firm and Gen. Mgr. C. S. Luck & Sons, on highways, streets and railroads, in complete charge of all work of Company; during last year Company did \$1 000 000 worth of work for the State and the City of Richmond; had personal supervision of all of this. TT 5.5: P 5.5. TT 8.5: SP 1.5: P 7: RC 7. Refers to J. C. Carpenter, F. C. Dugan, E. M. Hastings, T. B. Merrick, J. M. Penick, A. J. Saville, E. C. Shoecraft.

600 (6) MacDONALD, ALBERT FREDERICK, Box 1047, Woodlawn, Pa. (Age 35. Born Beaver Falls, Pa.) April 1905 to Nov. 1914 with American Bridge Co., Ambridge Plant, until April 1909 in drawing room tracing and detailing shop drawings, also (3 nights each week) at School of Eng.; then Draftsman and Checker of shop detail drawings for railroad bridges, general drawings for same. TT 9.6: SP 7: P 2.6. Dec. 1914 to Sept. 1917 with Pittsburgh Bridge & Iron Works, Rochester, Pa., as Checker of shop detail drawings for mill and office buildings and miscellaneous structural steelwork; Squadmaster in charge of detailers and checkers; Engr. in charge of erection of mill buildings. TT 3.7: P 3.7: RC 1.7. Sept. 1917 to Aug. 1919 with Corps of Engrs., U. S. Army, American Univ., Washington, D. C. Officers' Training Camp; 2d Lieut., Engrs., Engr. Purchasing Office, Paris, France; Commanding Officer, Engr. Detachment Dist. of Paris. TT 1.9: P 1.9: RC 1.9. Sept. 1919 to date with American Bridge Co., Ambridge Plant, as Checker of shop detail drawings, making studies and general drawings and layouts as guide to detailers and checkers for railroad bridges; ordering material; Squad Master in charge of detailers and checkers. TT 4.7: P 4.7: RC 2. TT 19.9: SP 7: P 12.9: RC 5.6. Refers to J. E. Banks, F. L. Dudley, R. G. Manning, P. J. Reich, S. A. Roake, E. C. Smith, Jr.

601 (6) McCULLOUGH, ROBERT WELDON, 130 W. Pitt St., Bedford, Pa. (Age 28. Born Cammal, Pa.) Registered Prof. Engr., Pennsylvania. 1918 C. E., Lafayette Coll. June to Sept. of years 1913 and 1914 Rodman, and June to Sept. of years 1915 and 1916 Transitman, Borough of Jersey Shore, Pa. June to Sept. 1917 Rodman, Pennsylvania Ry. TT 2.5: SP 2.5. April 1918 to April 1919 with U. S. Army in France, on survey and construction of narrow-gauge railroad. TT 1: SP 1. April to Sept. 1919 with Valuation Dept., New York Central Ry., on valuation survey and gathering field data. TT 0.5: SP 0.5. Sept. 1919 to Aug. 1920 Inspector, Pennsylvania Dept. of Highways, at Wellsboro, Pa., field inspection and office work. TT 0.9: SP 0.3: P 0.6: RC 0.6. Aug. 1920 to Jan. 1924 with W. J. & J. T. Gephart, until Sept. 1921 as Foreman and Engr. on road and bridge construction, surveying, at Jersey Shore; then Supt. and Engr. on road and bridge construction, surveying and office work, at Renova, Pa., and at Elkins, W. Va. TT 3.4: P 3.4: RC 3.4. Feb. 1924 to date Inspector, Pennsylvania Dept. of Highways, Bedford, Pa., office work. TT 0.2: SP 0.2. TT 8.5: SP 4.5: P 4: RC 4. Refers to H. T. Brown, W. J. Carroll, A. E. Farrington, A. H. Fuller, B. E. Gray, M. C. Krause, W. T. Lyle, G. Nauman, J. S. Ritchey, D. C. Stackpole, A. M. White.

602 (3) McPHERSON, JOHN FINLAY, 401 Victoria Ave., Westmount, Que., Canada. (Age 36. Born Chicago, Ill.) 1910 A. B., Princeton Univ. Sept. 1910 to March 1917 with George A. Fuller Co., until July 1913 as Timekeeper, Estimator and Surveyor in New York City; then Asst. Supt. Engr., on building in Wilkes-Barre, Pa., and Ann Arbor, Mich., and after March 1916 Supt. of Constr. on two buildings in Scarborough, N. Y. TT 6.6: SP 3.9: P 2.7: RC 1.7. March to July 1917 Appraiser and Valuator of subway work, U. S. Realty & Improvement Co., New York City. TT 0.4: P 0.4. July 1917 to March 1919 with U. S. Army, until Oct. 1917 as Supt. of Constr., War Dept., on design and construction of warehouse for air service at Richmond, Va.; then 1st Lieut. on design and construction of airplane hangars, machine shops and warehouses in France. TT 1.3: P 1.3: RC 1: D 0.3. March 1919 to Sept. 1923 with Geo. A. Fuller Co., New York City, nearly 10 months as Asst. Constr. Mgr.; then Supt. of Constr. erecting office building at 5 Dey St. and New York Cotton Exchange, New York City, and hotels in Hartford, Conn., and Atlantic City, N. J.; and since Sept. 1923 Canadian Mgr. of Company, Ltd. TT 5: P 5: RC 4.1: D 0.2. TT 13.2: SP 3.9: P 9.3: RC 6.8: D 0.5. Refers to R. E. Carrick, L. C. Dilks, W. S. Kinnear, W. A. McCalla, C. Penrose, W. A. Starrett, C. H. Stengel.

603 (1) MAGGI, AGUSTIN, San Salvador 2058, Montevideo, Uruguay. (Age 36. Born Montevideo, Uruguay.) 1909 C. E., Univ. of Montevideo. 1909 to 1911. Engr. for Municipality of Montevideo. TT 4: SP 2: P 2. 1911 to 1914 2d Class Engr., 1914 to 1916 1st Class Engr., and 1916 to date Chf. Engr., Div. of Highways, Ministry of Public Works. TT 13: P 13: RC 8. 1924 Delegate from Uruguay to Pan-American Highway Comm. TT 17: SP 2: P 15: RC 8. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

604 (1) MARSHALL, WILMOT NEILSON DAVIS, Spanish Town, Jamaica. (Age 28. Born Kingston, Jamaica.) Jan. 1912 to May 1916 Asst. Engr., Jamaica Govt. Ry.; on deviation of main line (over $\frac{1}{2}$ year) and Draftsman in head office. TT 4.3: SP 4.3. May 1916 to Sept. 1917 Asst. Engr., C. W. Leavitt & Son, on construction of Formal Gardens, Loretto, Pa. (over $\frac{1}{2}$ year), Chf. Instrumentman on topographical survey near Baltimore (over 2 months), Engr. in charge of street and sewer construction, Coatesville, Pa. (over $\frac{1}{2}$ year). TT 1.4: SP 0.8: P 0.6: RC 0.6. Sept. 1917 to June 1919 2d Lieut., British Imperial Army. July to Aug. 1919 Asst. Engr., Jamaica Govt. Ry. in charge of building water tanks and track scales. TT 0.2: P 0.2: RC 0.1: D 0.1. Aug. 1919 to May 1924 Engr., Keeling-Lindo, Ltd., on standard gauge railroad trackwork, as Asst. Engr. on construction of 5 miles, Surveyor and Engr. in charge of constructing 6 miles, Engr. in charge of reconstructing 2 miles, and (nearly 2 years) Engr. in charge of maintaining and operating 16 miles. Also Surveyor for land divisions and Engr. for irrigation system (about 5 months). TT 4.6: SP 0.1: P 4.5: RC 4.5: D 0.5. TT 10.5: SP 5.2: P 5.3: RC 5.2: D 0.6. Refers to J. H. L. Dodd, C. W. Leavitt, L. S. Marshall. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

605 (1) MAUZY, ANDREW BENJAMIN, Room 22, City Hall, Jersey City, N. J. (Age 33. Born Paterson, N. J.) Licensed Hydr. Engr., State of New Jersey. 2 years student, Pratt Inst., Brooklyn, N. Y. 1910 to 1918 Supt. of Meter Dept., East Jersey Water Co., Paterson, N. J., in direct charge of all repairs and installation of meters, of meter vault construction, and of meter laboratory. TT 8: SP 2: P 6: RC 6. 1918 to 1919 supervised installation of water-supply system at Camp Alexander, Va., for U. S. Govt. TT 1: P 1: RC 1. 1919 to 1921 Asst. Supt., Bayonne Water Dept., in direct charge of all field and construction work relating to water supply system. TT 2: SP 2. 1921 to date Water Conservator, Jersey City Water Dept., Bureau of Water, in responsible charge of office, field and construction work relating to water supply system. TT 3: P 3: RC 3. TT 14: SP 4: P 10: RC 10. Refers to J. H. Cook, A. W. Cuddeback, C. Potts, C. A. Van Keuren, N. D. Wortendyke.

606 (1) MELIORANSKY, KONSTANTIN PAUL, 55 West 109th St., New York City. (Age 36. Born Grodno, Russia.) 1912 C. E., Inst. of Civ. Engrs., Petrograd, Russia. 1909 to 1911 Foreman on construction, N. Donez R. R., Kharkov, Russia. TT 3.2: SP 2: P 1.2. 1912 to 1913 Estimator, Engr., construction, Amoor R. R., Chita, Russia. TT 0.9: P 0.9. 1913 Chf. of Party on research of new railroad lines, O. J. V. Co., Petrograd. TT 0.6: P 0.6: RC 0.6: D 0.6. 1914 to 1915 Dist. Chf. Engr. on construction of railroad, Mironovki-Rjishchev (district 40 miles long), O. J. V. R. R. Co. TT 1.3: P 1.3: RC 1.3: D 1.3. 1915 to 1916 Res. Engr. on construction of wooden bridge (9800 ft. long) over Desna River near Oster City. TT 0.6: P 0.6: RC 0.6. 1916 Dist. Chf. Engr., railroad bridge construction in Galizia, erected four bridges (322, 553, 623 and 1316 ft.). TT 0.6: P 0.6: RC 0.6: D 0.6. 1917 to 1918 Chf. of Designing Sec. of Military Road Dept. on Front of Rumania, on bridges

and railroad. *TT 1.8: P 1.8: RC 1.8: D 1.8.* 1918 to 1919 Cons. Engr. (railroad section), administration of town extensions in Kiev, Russia. *TT 0.8: P 0.8: RC 0.8: D 0.8.* 1919 to 1920 Res. Engr., Contr. Co. Chaev, at Rostof, Russia, railroad construction, wood and mine industries. *TT 0.5: P 0.5: RC 0.5.* 1920 Engr. Representative, Contr. Co., Sebastopol, Russia, railroad, houses. *TT 0.8: P 0.8: RC 0.8.* 1921 to 1923 Designer and Res. Engr., State Dept. of Water Communications in Yugoslavia, river harbor designing, construction and equipment. *TT 2.5: P 2.5: RC 2.5: D 1.5.* 1923 to 1924 Res. and Designing Engr., Oil Co., Danica, Zagrel, Yugoslavia, oil tanks and storage construction. *TT 0.7: P 0.7: RC 0.7: D 0.8.* *TT 14.8: SP 2: P 12.8: RC 10.7: D 7.4.* Refers to B. A. Bakhmeteff, V. Goriachkovsky, S. Karelscha, S. P. Maximoff, V. E. Timonoff.

607 (1) MENDARO, JOSE ANTONIO, P. O. Box 2012, Havana, Cuba. (Age 38. Born Havana, Cuba.) 1909 Civ. Constructor, School of Arts and Trades (Artes y Oficios). Aug. to Oct. 1909 Adding Supt., Havana Sewer and Paving Contract, Cuba Eng. & Contr. Co. *TT 0.2: SP 0.2.* Dec. 1909 to Aug. 1913 with same company until June 1910 laying sewer pipes and drains and in charge of grading Havana Sewer System; then Gen. Supt. on this system, driving submarine tunnel from Havana to Casa Blanca. *TT 3.7: P 3.5: RC 1.2.* April 1918 to May 1920 Gen. Supt., Tampa Sand & Shell Co., harbor and dock work, pile-driving. *TT 2.1: P 2: RC 2: D 0.1.* May 1920 to March 1921 and March 1923 to date Engr. in Chg., Cuban Industrial Ore Co., laying plans and methods of work, until March 1921 on mining at Baïre, Santiago de Cuba Province, and since March 1923 mining crome in Camaguey Province, and has erected ore-handling plant. *TT 1.9: P 1.9: RC 1.9.* *TT 7.8: SP 0.2: P 7.4: RC 5.1: D 0.1.* Refers to N. R. McLure, B. B. Shaw. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

608 (1) MEYER, ADOLF, 60 West 58th St., New York City. (Age 30. Born Liestal, Switzerland.) 1919 C. E., Swiss Federal Tech. Univ., Zürich, Switzerland. Sept. 1919 to Jan. 1921 Structural Designer, substations, workshops, Swiss Federal RRs., Lucerne. *TT 3.4: SP 2.5: P 0.9: D 0.9.* March to Sept. 1921 Draftsman, Wisconsin State Highway Comm., Wisconsin Rapids, Wis., computing and drafting road plans. *TT 0.5: SP 0.5.* Nov. 1921 to May 1922 Draftsman, Constr. Supt.'s office for steam power plant construction, San Diego (Cal.) Consolidated Gas & Elec. Co. *TT 0.5: SP 0.3: P 0.2: D 0.2.* June to Oct. 1922 Draftsman and Designer, Merced (Cal.) Irrigation Dist., on hydro-electric development. *TT 0.4: SP 0.2: P 0.2: D 0.2.* Nov. 1922 to Aug. 1923 Designer, Southern Power Co., Charlotte, N. C., on layout and design of hydro-electric development. *TT 0.8: P 0.8: D 0.8.* March 1924 to date Designer (Structural), Dwight P. Robinson & Co., New York. *TT 5.6: SP 3.5: P 2.1: D 2.1.* Refers to A. C. Glesecke, L. M. Klauber, W. S. Lee, W. B. McMillan, J. H. Miner.

609 (4) MIDOLO, MARIO JOHN, 1724 Mifflin St., Philadelphia, Pa. (Age 24. Born Syracuse, Italy.) 1923 B. S., Pa. State Coll. June to Aug. 1923 Asst. to Supt. on sanitary sewer construction, Perna Contr. Co., in charge of materials, supplies, timekeeping, etc. *TT 2.2: SP 2.2.* Aug. to Dec. 1923 with Thorton Hollingshead, Surv., Moorestown, N. J., Party Leader, surveying. *TT 0.3: SP 0.3.* Dec. 1923 to May 1924 Field Engr., Barber Asphalt Co., Philadelphia, Pa. *TT 0.4: SP 0.4.* *TT 2.9: SP 2.9.* Refers to P. B. Breneman, R. O'Donnell, J. H. Pope, R. L. Sackett, E. D. Walker, R. I. Webber.

610 (3) MIFFLIN, WILLIAM BIDDLE, Willow St., Castleton, N. Y. (Age 31. Born Clay-ton, N. Y.) 1924 C. E., Cornell Univ. *TT 2: SP 2.* Refers to F. A. Barnes, C. Crandall, H. S. Jacoby, B. C. Martin, H. N. Ogden, J. E. Perry, E. W. Schoder.

611 (12) MOCK, WESLEY CHARNOCK, 324 Pittock Blk., Portland, Ore. (Age 44. Born Petaluma, Cal.) Sept. 1901 to March 1909 with Northern Pacific Ry. Co. as follows: Sept. 1901 to Sept. 1902 Rodman; Oct. 1902 to Feb. 1903 Asst. Engr. M. of W., ballasting and relaying track, laying out and constructing bridge foundations, buildings, etc.; March 1903 to March 1904 Draftsman and Transitman; April 1904 to May 1906 Chf. Draftsman, Div. Engr.'s office, Livingston, Mont., in charge of all drafting work and making estimates of cost of all improvements; June 1906 to March 1909 Chf. Draftsman, office of Prin. Asst. Engr., Spokane, Wash.; had direct charge of drafting, including designing of timber bridges and buildings, concrete bridge foundations and estimates of cost of construction. *TT 7.6: RC 5.4: D 2.8.* April 1909 to Feb. 1914 Res. Engr., Spokane, Portland & Seattle Ry. Co., maintenance of way and construction, in charge of construction of all improvements, including completion of all construction work not completed on opening of line for operation; four large steel street bridges across St. Johns Cut at Portland and oil storage facilities at various points were constructed, station and terminal facilities completed and grading operations

carried out; approx. 100 miles of track were laid and several steel bridges and bridge foundations constructed; a store department warehouse and other buildings at Spokane were also constructed. *TT 4.9: RC 4.9: D 4.9.* March to June 1914 and May 1915 to Jan. 1916 in private practice, surveying and drafting, at Tacoma, Wash. *TT 1.1: RC 1.1.* July 1914 to April 1915 Instrumentman, Comm. of Public Docks, Portland, Ore., locally in charge of construction of extension to Municipal Terminal No. 1 and warehouse. *TT 0.8: RC 0.8.* Feb. to June 1916 Rodman and Draftsman, Chicago, Milwaukee & St. Paul Ry. Co. *TT 0.4.* July 1916 to date with Oregon-Washington R. R. & Navigation Co., until July 1923 as Asst. Engr., Federal valuation, checking field inventory made by Bureau of Valuation, representing the Carrier in negotiations with the Bureau and general supervision of Valuation Department office and field work; since Aug. 1923 Valuation Engr. in charge of Valuation Dept. *TT 7.8: RC 7.8.* *TT 22.7: RC 20.1: D 7.7.* Refers to C. C. Crew, T. H. Crosswell, W. H. Hulsizer, S. Murray, R. W. Rea, F. C. Squire, P. E. Thian, F. P. Wentz.

612 (5) MOEHLE, FREDERICK LOUIS, 2325 Harlem Ave., Baltimore, Md. (Age 20. Born Baltimore, Md.) 1924 B. E. (Civ.), Johns Hopkins Univ. June to Sept. of years 1918 and 1919 in drafting-room and office, Baltimore & Ohio R. R. Co., Mt. Clare Shops, June to Sept. 1920 Draftsman, Eng. Dept., Crown Cork & Seal Co., and Feb. to March 1921 Salesman, power-plant equipment, with Rodgers & Reitz, all at Baltimore, Md. March to June 1921 Draftsman, new military library, Baltimore. June to Oct. 1921 Eng. Aid, and June to Oct. 1922 Senior Draftsman, Baltimore City Water Dept. June to Oct. 1923 Asst. on engineering work with W. W. Pagon, Cons. Engr., Baltimore. *TT 2.7: SP 2.7.* Refers to J. H. Gregory, W. A. Megraw, W. W. Pagon, V. B. Siems, J. T. Thompson, E. B. Whitman.

613 (9) MOORE, STUART BREATHED, New Castle, Ky. (Age 45. Born Louisville, Ky.) Sept. 1900 to March 1902 successively Rodman, Draftsman and Instrumentman, Erie R. R. *TT 1.5: SP 1.5.* March to Sept. 1902 Engr. in Chg., drainage, Grass Twine Co., St. Paul, Minn. *TT 0.5: P 0.5: RC 0.5.* Sept. 1902 to Sept. 1903 Instrumentman, Chicago Great Western Ry., in charge of grade reduction, etc. Sept. 1903 to April 1904 Foreman on a logging camp. *TT 1: SP 1.* April to Sept. 1904 Special Apprentice in shops, Chicago, Rock Island & Pacific Ry. *TT 0.4: SP 0.4.* Sept. to Dec. 1904 Instrumentman, Illinois Central R. R. *TT 0.2: SP 0.2.* Dec. 1904-Dec. 1911 with Union Pacific R. R. as follows: Dec. 1904 to March 1905 student of transportation; Clerk Auditor of Disbursements Office; March to July 1905 Freight Brakeman, Wyoming Div.; July 1905 to July 1906 Asst. Div. Acct., Supt.'s office, Cheyenne, Wyo.; July to Dec. 1906 Instrumentman, Nebraska Div.; Dec. 1906-Dec. 1911 Asst. Engr. in charge of double-tracking, Silver Creek to Kearney, Nebr. (92 miles), 21 miles extension, North Platte Branch; during winter on bridge plans. *TT 6: SP 1: P 5: RC 5.* Jan. 1912 to Jan. 1914 with Arizona Eastern R. R. as Asst. Engr. at Phoenix, Ariz., designed A. E. Office Bldg., roundhouse, and other shop buildings and appurtenances, being in sole charge of design and later of construction; after Sept. 1913 Asst. Supt., Globe Div. *TT 2: P 2: RC 2: D 1.7.* Jan. to June 1914 Supt. of Constr., concrete building, Texas & New Orleans R. R., Houston, Tex. *TT 0.5: P 0.5: RC 0.5.* June to Dec. 1914 Asst. Supt., Houston Div., Southern Pacific Lines in Texas and Louisiana. *TT 0.5: P 0.5: RC 0.5.* Dec. 1914 to July 1915 Asst. Engr. in Chg., Galveston Elevator. *TT 0.7: P 0.7: RC 0.7.* July 1915-Dec. 1916 Supt. of Constr., Morgan's Louisiana & Texas R. R. & S. S. Co., New Orleans, La., in charge of erection of shops and building design for Louisiana Lines. *TT 1.4: P 1.4: RC 1.4.* Dec. 1916 to March 1921 Constr. Engr., Atlantic System, Southern Pacific Lines, also had charge of building design. *TT 4.2: P 4.2: RC 4.2: D 4.2.* March 1921 to date Cons. Engr., especially on highway work; Cons. Engr. for S. P. Lines, Houston; designed special type of highway (Invisible Track Highway) and built some for Kentucky Highway Dept. at Pineville, Ky., and for Port Comm. at Houston, Tex.; also designed reinforced concrete building for Kentucky Highway Dept. *TT 3: P 3: RC 3: D 3.* *TT 21.8: SP 4.2: P 17.6: RC 17.6: D 8.9.* Refers to L. M. Adams, J. F. Coleman, J. M. Howe, J. Lansdale, J. C. McVea.

614 (1) MORE, CHARLES, 122 Putnam Ave., Brooklyn, N. Y. (Age 21. Born Brooklyn, N. Y.) 1924 B. S. in C. E., Cooper Union Night School. Feb. 1919 to May 1920 Rodman and Chairman with Homer L. Bartlett, Brooklyn, N. Y., surveys and subdivision. *TT 1.2: SP 1.2.* May 1920 to Sept. 1921 Transitman with Erlandsen & Crowell, Jamaica, N. Y. (4 months), and with Geo. C. Hollerith, New York City (1 year), surveys, subdivision and street improvements. *TT 1.3: P 1.3.* Sept. 1921 to Aug. 1922 Transitman and Topographical Draftsman with James F. Deehan, Richmond Hill, N. Y., surveys, subdivision and street improvements. *TT 0.9: SP 0.9.* Aug. 1922 to date Transitman, Topographical Draftsman and Computer, with James F. Carey, Brooklyn, site, building and condemnation surveys for

Board of Education of New York City, subdivision of property; Estimator with Newman & Carey, Brooklyn, on sewer construction. TT 1.9: SP 1.9: P 0.4. TT 5.4: SP 5: P 0.4. Refers to H. R. Codwise, O. Erlandsen, F. E. Foss, G. Morrison, J. C. Riedel, J. P. J. Williams.

615 (1) MUGLER, RICHARD CARL WILLIAM, 576 East 135th St., New York City. (Age 24. Born New York City.) 1924 B. S. in Civ. Eng., Cooper Union Inst. of Tech. TT 2: SP 2. Refers to H. R. Codwise, F. E. Foss, G. Morrison, J. H. Richardson, J. P. J. Williams.

616 (10) MURRAY, CHARLES JASPER, Jr., 709 Market St., Knoxville, Tenn. (Age 28. Born Jellico, Tenn.) Licensed Engr., Tennessee. 1921 B. S. in M. E., Univ. of Tenn. Feb. to July 1916 Rodman, Instrumentman, Asst. to Engr., Campbell County Highway Comm., running levels, making estimates, etc. TT 2.5: SP 2.5. July to Nov. 1916 Rodman, Instrumentman and Draftsman, Knoxville (Tenn.) Ry. & Light Co., office and field work. TT 0.3: SP 0.3. Nov. 1916 to Feb. 1917 Draftsman, Kilby Frog & Switch Co., Birmingham, Ala., checking calculations on cords, etc., and estimates on crossings, etc. TT 0.3: SP 0.3. Feb. to June 1917 Draftsman and Designer, Aluminum Co. of America, Maryville, Tenn., making property and contour maps, plant layouts, designing small dwellings, some machinery design and location. TT 0.4: SP 0.4. June to Dec. 1917 Draftsman and Designer, W. J. Savage Co., Knoxville, making drawings from sketches, doing some designing on flour mill, coal mining and conveying machinery and miscellaneous mill buildings, mill construction and steel. TT 0.5: SP 0.3: P 0.2: D 0.2. Jan. to June 1918 Draftsman and Designer, Kilby Frog & Switch Co., designing frogs, switches, railway crossings, turnouts, crossovers and some shop machinery. TT 0.5: P 0.5: D 0.5. June to Dec. 1918 F. A. C. O. T. S., U. S. Army, Louisville, Ky. Dec. 1918 to Jan. 1921 Draftsman and Designer, W. J. Savage Co., designing coal mining, flour mill and conveying machinery; selling and supervising the construction and erection of this and designing the buildings therefor (wood and steel). TT 2.1: P 2.1: RC 2.1: D 2.1. June 1921 to March 1922 Draftsman, Jun. Highway Engr., Tennessee State Highway Dept., plotting alignments, cross-sections from notes; estimating and teaching in short course; Jun. Engr. by examination. TT 0.8: SP 0.8. March 1922 to date Engr., Knoxville Iron Co., estimating, designing, selling reinforcing steel and miscellaneous concrete accessories; some structural design and general plant work layouts and efficiency work; in charge of bending and fabrication. TT 2: P 2: RC 2: D 0.5. TT 9.4: SP 5.1: P 4.3: RC 2.1: D 3.5. Refers to A. Bonnyman, W. W. Carson, B. L. Crenshaw, N. W. Dougherty, F. E. Murphy, E. B. Wilkinson, W. H. Wilson, O. Z. Wrenn, R. E. Yoltan.

617 (8) MYLREA, THOMAS DOUGLAS, 712 W. Illinois St., Urbana, Ill. (Age 38. Born Liverpool, England.) 1909 B. S. in C. E., and 1922 C. E., Univ. of Ill. June to Dec. 1909 Inspector of bridges, Illinois State Highway Comm. TT 2.5: SP 2: P 0.5. Jan. 1910 to July 1912 with American Bridge Co. of New York, 1½ years as Timekeeper and Riveter, and 1 year Draftsman at Gary Plant. TT 2.5: SP 1.5: P 1. July 1912 to July 1913 Checker (6 months) and Chf. Draftsman (6 months), Winnipeg Plant, Dominion Bridge Co. TT 1: P 1. July to Dec. 1913 with Harkness & Oxley, Cons. Engrs., Toronto, as Checker of shop details on Dominion Bank Bldg. TT 0.5: P 0.5. Dec. 1913 to June 1914 Science Master, Ingersoll Collegiate Inst., teaching physics, chemistry and mechanics. TT 0.5: SP 0.5. June 1914 to June 1917 Engr. of Tests, Dept. of City Archt. and Supt. of Bldg., Toronto, extensometer tests of many large reinforced concrete buildings; investigated effect of fire on flat slab building. TT 3: P 3: RC 3. Aug. 1917 to July 1920 Chf. Engr., Toronto Branch. Trussed Concrete Steel Co. of Canada, Ltd., designed or had charge of design of reinforced concrete structures of all kinds, warehouses, bridges, schools, tanks, etc. TT 3: P 3: RC 3: D 3. July to Dec. 1920 in partnership with F. C. Engholm, Canadian Representative of Hennebique System; designed addition to hydro-electric power house for Ontario Power Commission, and various other buildings. TT 0.4: P 0.4: D 0.4. Dec. 1920 to Aug. 1922 in charge of Eng. and Design Dept. of Norman McLeod, Ltd., Eng. Contrs., Toronto, 1 year on extensometer work, remainder designing bridges and buildings, among others Sixteen Mile Creek (980 ft. long, 120 ft. high), near Oakville, Ont., and Leaside Plant for Durant Motors Co. TT 1.7: P 1.7: RC 1.7: D 1.7. Sept. 1922 to date Asst. Prof. of Structural Eng., Univ. of Illinois. TT 1.6: P 1.6: RC 1.6. TT 16.7: SP 4: P 12.7: RC 9.2: D 5.1. Refers to H. Cross, M. S. Ketchum, A. R. Lord, G. A. McCarthy, W. A. Slater, C. C. Williams, R. O. Wynne-Roberts.

618 (1) NAKAYAMA, CHUSABURO, Japanese Govt. Rys., 1 Madison Ave., New York City. (Age 31. Born Ibarakiken, Japan.) 1916 C. E., Civ. Eng. Dept., Coll. of Eng., Tokyo Imperial Univ. July 1916 to date with Japanese Govt. Rys., until Dec. 1918 as Civ. Engr.,

Dept. of Improvement Works, on survey and design of station yard or location of Tokyo Suburban Rys.; then Chf. Engr. in charge of improvement works of suburban railway (Yamanotesen) in Tokyo City; since Oct. 1923 in the United States studying improvement work of city and suburban railways. *TT 9.7: SP 2: P 7.2: RC 2.5: D 4.7.* Refers to M. Abe, Y. Hatta, K. Hirai, I. Hiroi, H. Inagaki, M. Kabashima.

619 (4) NEIMAN, HERMAN BURBANK, Holtwood, Pa. (Age 26. Born Baltimore, Md.) 1922 B. S. in Civ. Eng., Carnegie Inst. Tech. 1917 Draftsman, Carrigan McKinney Steel Co., Cleveland, Ohio. Summer 1918 (vacation) Instrumentman and Rodman, Dundalk (Md.) Eng. Co. Summer 1919 (vacation) Foreman, road construction, Faber Eng. Co., Pittsburgh, Pa. *TT 2.8: SP 2.8.* 1920 to 1921 Layerout and Engr., U. S. Engrs., Pittsburgh, Pa., construction on Lock and Dam No. 5, Allegheny River, in full charge of laying out all construction, and supervision of engineering details, reports, material, etc. *TT 1.5: SP 0.5: P 1.* 1922 Foreman, Dravo Contr. Co., concrete construction, South St. Bridge, Philadelphia, Pa. *TT 0.5: SP 0.5.* 1923 to 1924 Office Engr. and field supervision, construction of power-house and hydraulic units, Penn Power & Water Co., Holtwood, Pa.; Asst. to Constr. Engr. in Chg. *TT 1: SP 0.5: P 0.5.* *TT 5.8: SP 4.3: P 1.5.* Refers to F. M. McCullough, W. E. Mott, R. C. Newbold, G. W. Stephens, Jr., C. H. Stevens.

620 (4) NETTLETON, ELWOOD THOMAS, Estimating Div., Pennsylvania State Highway Dept., Harrisburg, Pa. (Age 25. Born West Haven, Conn.) 1921 Ph. B., Sheffield Sci. School. April 1917 to Sept. 1918 Chainman, Rodman, Transitman and Chf. of Party, with C. P. Rumpf. Oct. to Dec. 1918 with Engr. Corps, U. S. Army. *TT 3.5: SP 3.5.* June to Aug. 1921 with Reserve Officers' Training Corps, Camp Humphreys, Va.; commissioned 2d Lieut. Sept. 1921 to June 1922 Special Student, Yale Graduate School and Towne Scientific School, Univ. of Pennsylvania, in highway engineering and construction. *TT 1: P 1.* June 1922 to Jan. 1923 Inspector of highways and bridges, and March to May 1923 Asst. Supt. of highways and bridges, Highway and Bridge Dept., Darien, Conn. *TT 0.9: P 0.9: RC 0.9.* Jan. to March 1923 Jun. Civ. Engr., Bureau of Public Roads, Washington, D. C. *TT 0.2: P 0.2.* May 1923 to date with Pennsylvania State Highway Dept., until Oct. 1923 as Chf. Inspector at Sunbury, Pa.; then Asst. Engr. in charge of Estimating Div., Harrisburg, Pa. *TT 0.9: P 0.9: RC 0.9.* *TT 6.5: SP 3.5: P 3: RC 1.8.* Refers to S. E. Barney, T. J. Boyle, J. W. Follin, H. E. Hiltz, C. H. Nichols, R. V. Warren, W. Whited.

621 (3) NEUFFER, ALFRED, Hotel Utica, Utica, N. Y. (Age 27. Born Cincinnati, Ohio.) 1920 C. E., Univ. of Cincinnati. June 1920 to May 1921 Structural Steel Detailer, McClintic-Marshall Co., detailing structural steel for mill and office buildings, power houses and bridges, and designing plate girder bridges. *TT 2.9: SP 2.9.* May 1921 to Jan. 1922 Engr., Interstate R. R. Co., checking design of railroad bridges. *TT 0.7: P 0.7: RC 0.7.* Jan. 1922 to April 1923 Asst. Engr., McClintic-Marshall Co., estimating, designing, checking structural steel. *TT 1.3: P 1.3: RC 1.* April 1923 to Feb. 1924 Asst. Engr., Truscon Steel Co., detailing, designing, checking reinforced concrete structures, and in charge of design of structural steel for standard buildings. *TT 0.8: SP 0.3: P 0.5: RC 0.3.* Feb. 1924 to date Contr. Engr., McClintic-Marshall Co., at Utica, N. Y., estimating, designing, contracting for structural steel and reinforced concrete structures. *TT 0.3: P 0.3: RC 0.3.* *TT 6: SP 3.2: P 2.8: RC 2.3.* Refers to G. M. Braune, R. W. Burpee, J. T. Kiernan, R. MacMinn, J. L. Orr, N. H. Sturdy, G. L. Taylor.

622 (1) NEWMAN, STANLEY WILLIAM, 110 West 42d St., New York City. (Age 27. Born New York City.) 1917 B. S., Armour Inst. Tech. June to Oct. 1915 Rodman, Chicago, Milwaukee & St. Paul R. R. May to Oct. 1916 Rodman, Chicago, Burlington & Quincy R. R. *TT 2: SP 2.* May to Oct. 1917 Instrumentman with Ewing & Martin, Clothier, W. Va., on layout and inspection of construction of coal tipples, yard tracks, etc., in connection with opening of new coal mines. *TT 0.5: SP 0.5.* Oct. 1917 to April 1918 Asst. to Supt., A. Bentley Sons Co., Toledo, Ohio, Constr. Asst. on cantonment work, Camp Sherman, Chillicothe, Ohio, and Camp Johnston, Jacksonville, Fla. *TT 0.5: P 0.5: RC 0.5.* May to Oct. 1918 Computer for new topographical maps, U. S. Central War Dept., Chicago, Ill.; Squad Leader. *TT 0.4: P 0.4: RC 0.4.* May 1919 to Sept. 1920 and April 1921 to Jan. 1922 Jun. Asst. Engr., Grade 2, New York State Highway Dept., 1½ years with Hornell and Poughkeepsie Divs. on design, inspection and survey in road construction, and after April 1921 with Poughkeepsie Div. as Engr. in charge of construction of concrete road (cost \$110 000), Westhampton, Quogue. *TT 2.1: SP 0.7: P 1.4: RC 1.2: D 0.2.* Sept. 1920 to April 1921 Contr.'s Engr. Niewenhouse Co., Inc., Bronx, N. Y., on construction of reinforced concrete factory (cost \$250 000). *TT 0.6: P 0.6: RC 0.6.* Jan. 1922 to date member of

firm, Wildman & Newman, Engrs. and Contrs., New York City, in active charge of design and execution of construction work. TT 2.4: P 2.4: RC 2: D 0.4. TT 6.5: SP 1.2: P 5.3: RC 4.7: D 0.6. Refers to F. J. Carew, W. H. Halsey, A. E. Phillips, G. E. Strehan, J. H. Sturdevant, I. Walzer.

623 (15) NORTON, ARTHUR HENRY WHITELEY, R. 1, Box 12 D, San Antonio, Tex. (Age 47. Born San Antonio, Tex.) Sept. 1895 to June 1898, student, Scientific Dept., Dartmouth Coll. Aug. to Nov. 1901 Rodman and Chairman, San Antonio & Gulf Ry. April to Aug. 1902 Topographer, Kansas City, Mexico & Orient Ry. Sept. 1902 to March 1903 Topographer and Transitman, and May to Oct. 1903 Transitman and Locating Engr., Mexican Central Ry. TT 1.8: SP 1.6: P 0.2: RC 0.2. July 1907 to May 1908 and Aug. 1909 to July 1910 Asst. Engr. on construction of hydro-electric plants for Michoacan Power Co. on Zacapu River at El Sabino and El Botello, Michoacan, Mexico, on survey for location of transmission line (40 km.), survey of drainage areas and aqueducts and pressure pipe construction; after Aug. 1909 also Res. Engr. on transmission line construction from Guanajuato to San Luis Potosi. TT 1.8: P 1.8: RC 1.8. Sept. 1918 to date with E. G. Graves, Civ. Engr. and Surv., San Antonio, Tex., ranch and city subdivisions and surveys. TT 5.6: P 5.6. TT 9.2: SP 1.6: P 7.6: RC 2. Refers to R. H. Gresham, I. C. McBride, T. K. Mathewson, W. O. Washington, A. L. Wilcox.

624 (9) OBERT, RUSSELL MELVIN, 2125 Cleveland Ave., Columbus, Ohio. (Age 22. Born Columbus, Ohio.) 1924 B. C. E., Ohio State Univ. Refers to F. H. Eno, C. T. Morris, J. C. Prior, J. R. Shank, R. C. Sloane.

625 (1) OGLE, HENRY LANE, 29 Broadway, New York City. (Age 30. Born Louisville, Ky.) 1915 B. S. in C. E., Purdue Univ. July 1915 to Jan. 1917 Engr., Falls City Constr. Co., Louisville, Ky., on work on Court House at Hamlin, W. Va. TT 3.5: SP 2: P 1.5. Jan. 1917 to June 1918 with Consolidated Expanded Metal Co., Braddock, Pa., as Sales Engr. at Philadelphia and Pittsburgh Offices. TT 1.4: P 1.4: D 1.4. Jan. 1919 to June 1921 Senior Res. Engr. and Designing Engr., U. S. S. B., Emergency Fleet Corporation, Res. Engr. at Kingston and Arverne, N. Y., Ship Yards, also Designing Engr. on pontoon construction. TT 2.4: P 2.4: RC 2.4. June 1921 to June 1922 Dist. Mgr., Youngstown Pressed Steel Co., Warren, Ohio, at Philadelphia and Chicago. TT 1: P 1: RC 1. June 1922 to Oct. 1923 in private practice, general construction work, New York City. TT 1.3: P 1.3: RC 1.3. Oct. 1923 to date Vice-Pres., Hamilton & Chambers Co., Inc., New York City, in executive charge of general steel construction business. TT 0.7: P 0.7: D 0.7. TT 10.3: SP 2: P 8.3: RC 5.4: D 1.4. Refers to M. B. Case, W. H. Gahagan, F. C. Moore, A. V. Spinosa, H. C. Stowe.

626 (1) OLEWILER, WILLIAM NORMAN, 8 Water St., Pleasantville, N. Y. (Age 23. Born Red Lion, Pa.) 1923 B. S. in C. E., Pa. State Coll. June to Dec. 1923 Jun. Engr., U. S. Coast and Geodetic Survey, on various field and office work. TT 2.5. May 1924 to date Inspector of construction on sewage disposal plant at Pleasantville, N. Y., for L. D. LeValley, Civ. Engr. TT 0.1. TT 2.6. Refers to R. O'Donnell, G. T. Rude, R. L. Sackett, E. D. Walker, R. I. Webber.

627 (1) OYAGUE y CALDERON, CARLOS, 567 Calle de Chota, Lima, Peru. (Age 44. Born Seville, Spain.) 1899 Min. Engr., Escuela de Construcciones Civiles y de Minas, Lima, Peru. 1899 to 1901 Asst. Engr. on construction of road, Chanchamayo, Peru. TT 4: SP 2: P 2. 1902 to 1904 professional studies in France. 1904 to 1905 Asst. Engr., Second Comm. of Studies of Oriental R. R. of Peru. TT 1: P 1. 1905 to 1907 with Ministry of Public Works, Lima, Peru. TT 2: P 2. 1907 to 1915 Asst. Engr., and 1915 to 1916 Chf. Engr. of bridges and roads, Bureau of Public Works, Lima. TT 9: P 9: RC 1. 1916-1920 Chf. Engr., Tarma-Oroya Highway. TT 5: P 5: RC 5. 1924 Delegate from Peru to Pan-American Highway Comm. in the United States. 1921 to date Engr., Ministry of Public Works, sanitation works of Lima. TT 4: P 4: RC 4. TT 25: SP 2: P 23: RC 10. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I., of the By-Laws.)

628 (2) PALMER, BENJAMIN HENRY, Jr., Vergason Ave., Norwichtown, Conn. (Age 23. Born Norwich, Conn.) 1923 C. E., Cornell Univ. June 1923 to date Draftsman and Inspector with Chandler & Palmer, Norwich, Conn., in charge of field parties on reconnaissance, has also drawn plans and details for several mill additions and large garages, and checked the steel used. TT 2.8: SP 2.8. Refers to F. A. Barnes, C. Crandall, S. B. Palmer, J. E. Perry, F. J. Seery, L. C. Urquhart.

629 (1) PASQUARELLI, JOSEPH, 468 East 145th St., New York City. (Age 29. Born Rappolla, Italy.) 1917 B. S. in C. E., N. Y. Univ. July 1917 to March 1918 Draftsman, Terry Mfg. Co. and Transitman, New York Central R. R. April 1918 to June 1919 Private, Battery A, 305th F. A., U. S. Army. TT 2.6: SP 2.6. Sept. 1919 to March 1920 Structural Steel Draftsman, detailing, Purdy & Henderson Co., New York City. TT 0.6: P 0.6. April 1920 to Aug. 1921 Structural Steel Designer and Constr. Supt. (Res. Inspector), American Ice Co., New York City. TT 1.4: P 1.4: RC 0.4: D 1. Sept. to Nov. 1921 Structural Draftsman on plans with Waldemar Mortensen, C. E., New York City. TT 0.2: P 0.2. Jan. to May 1922 Structural Draftsman on plans and details, Dwight P. Robinson Co., New York City. TT 0.4: P 0.4. June to Oct. 1922 in private practice as Engr., Bronx, New York City. TT 0.4: P 0.4: RC 0.4: D 0.4. Nov. 1922 to May 1923 Structural Steel Draftsman on details, Gunvald Aus Co., New York City. TT 0.6: P 0.6. June 1923 to date Structural Steel Draftsman on plans and details, A. E. Norton Co., New York City. TT 0.9: P 0.9. TT 7.1: SP 2.6: P 4.5: RC 0.8: D 1.4. Refers to K. Berle, H. I. Cohen, A. S. Schoyen, C. H. Snow, C. L. Weir.

630 (9) PETTY, ROYAL ELLSWORTH, 1286 West 76th St., Cleveland, Ohio. (Age 33. Born Akron, Ohio.) 1913 B. S. in C. E., Case School of Applied Sci. June 1913 to May 1914 Transitman, and May 1914 to July 1918 Asst. Engr., in charge of field party and responsible for giving lines and grades, checking form work, and assisting in preparation of estimates on Detroit Superior Bridge construction, for W. A. Stinchcomb, County Engr. July 1918 to July 1919 Designing Draftsman in Bridge Dept. of County Engr.'s office, designing and making plans and estimates for bridges, culverts, retaining walls, etc. TT 8.1: SP 2.9: P 5.2: RC 5.2: D 0.5. July 1919 to Feb. 1922 Designing Draftsman, Watson Eng. Co., designing and making plans and estimates for all kinds of building and bridge work. TT 2.6: P 2.6: RC 2.6: D 1.3. Feb. 1922 to date Designing Draftsman, Cleveland Union Terminals Co., making designs, plans and estimates of bridges, retaining walls, buildings, etc. TT 2.2: P 2.2: RC 2.2: D 1.1. TT 12.9: SP 2.9: P 10: RC 10: D 2.9. Refers to W. P. Brown, F. L. Gorman, H. Kercher, C. P. Marsh, F. H. Neff, W. J. Watson, A. W. Zeslger.

631 (11) PHILLIPS, JAMES EMERSON, 207 So. Broadway, Los Angeles, Cal. (Age 41. Born Russellville, Ind.) 2½ years student, Civ. Eng. course, Rose Polytechnic Inst. March to Aug. 1905 Rodman, Chicago & Eastern Illinois R. R. TT 1.1. July 1906 to March 1907 Rodman and Inspector on pile trestle and wood truss bridges, Chicago & Northwestern R. R., Pierre, S. Dak., construction. TT 0.7. April to Sept. 1907 in charge of topographic survey of Otis country estate, Cleveland, Ohio. TT 0.5: RC 0.5. 1908 in private practice of engineering, Rockville, Ind., land surveys and mining engineering. TT 1: RC 1. Jan. 1909 to Dec. 1910 County Surveyor, Parke County, Rockville, on design, plans, specifications and estimates for and superintending construction of approx. 40 miles of improved roads and appurtenant structures, including reinforced concrete arch bridges up to 75-ft. span; also 24-ft. high reinforced concrete retaining walls for Wabash River Bridge protection. TT 2: RC 2: D 2. May 1911 to May 1912 in private practice of engineering, at Portland, Ore., land subdivision. TT 1: RC 1. June 1912 to date Draftsman and Asst. Engr., Los Angeles City Water Dept., on design, plans and estimates for water distributing systems, including \$3 000 000 San Fernando Valley steel pressure pipe irrigation system and appurtenant water-works structures; hydrographic work in field and studies of stream flow and runoff with relation to water supply of the city; conducting tests for efficiency of air lift, deep well turbine and centrifugal pumps; field tests to determine rate of flow of water through gravels under high heads; numerous special studies relating to general operation and expansion of the water-works system; since 1918 in charge of Drafting Dept. and its activities in mapping, designing and performance of all such work; recently also in charge of field survey parties on location and construction of dams, roads, large trunk line supply mains, etc. TT 12: RC 6: D 12. TT 18.3: RC 10.5: D 14. Refers to E. A. Bayley, E. R. Bowen, W. W. Hurlbut, W. Mulholland, D. L. Reaburn, H. A. Van Norman.

632 (2) PHILLIPS, LAURENCE JOSLYN, 100 Boylston St., Boston, Mass. (Age 28. Born Cambridge, Mass.) June 1920 graduated from Northeastern Univ. Evening School of Eng. Aug. 1911 to date with Whidden & Co., Inc., and Whidden-Beekman Co. (successors), Engrs. and Bldrs., until June 1914 received training in office and field work pertaining to building construction, and since then Inspector of field work, Draftsman on steel details, on design of steel structures, general supervision of field work, and Res. Engr. in charge of field work. TT 10: SP 4.5: P 5.5: RC 3.5: D 2. Refers to J. V. Beekman, Jr., C. S. Eli, C. R. Gow, J. H. Hession, E. A. Tucker, J. T. Whitney.

633 (10) POMYKALA, EDMUND STANLEY, 424 E. Liberty St., Savannah, Ga. (Age 26. Born Baltimore, Md.) 1923 B. S., Mass. Inst. Tech. June 1923 to March 1924 Instrumentman, Jun. Engr., Dixie Constr. Co., Dadeville, Ala., transit work, giving grades and lines on construction. TT 2.8: SP 2.8. Refers to H. K. Barrows, C. B. Breed, J. W. Howard, C. M. Spofford, L. G. Warren.

634 (11) POOLE, CHARLES OSCAR, 408 Bartlett Bldg., Los Angeles, Cal. (Age 65. Born Sallsbury, Mass.) 1880 to 1884 Machinist and Blacksmith, Oregon Improvement Co., near Tacoma, Wash. TT 5. 1884 to 1888 on steam engineering work at Newcastle Coal Mine, near Seattle, Wash. TT 4: RC 2. 1888 to 1891 Master Mechanic at Wilkerson Coal Mine, near Seattle. TT 3: RC 3. 1891 to 1894 Operator and Foreman in Dynamo Room of California Elec. Light Co. of San Francisco, Cal. TT 3: RC 1. 1894 to 1897 Gen. Foreman, shop and maintenance, for same company. TT 3: RC 3. 1897 to 1900 Gen. Supt., Elec. Dept., San Francisco Gas & Elec. Co. TT 3: RC 3: D 3. 1900 to 1902 Asst. Mgr., Standard Elec. Co. of Cal., had charge of construction of first high-tension transmission line into San Francisco. TT 2: RC 2. Oct. 1902 to Dec. 1904 Sales Engr., Stanley Elec. Mfg. Co. of Pittsfield, Mass., representing Denver territory. TT 2: RC 2: D 1. 1904 to 1905 Designing and Constr. Engr., and 1905 to 1907 Asst. Gen. Mgr., Nevada California Power Mining & Milling Co., Denver, Colo. TT 3: RC 3: D 3. Aug. 1907 to Oct. 1923 Chf. Engr., Nevada California Power Co., The Southern Sierras Power Co. and affiliated companies. TT 16: RC 16: D 16. Oct. 1923 to date Cons. Engr., Southern Sierras Power Co. and affiliated companies, in connection with a general consulting business in Los Angeles, Cal. TT 0.7: P 0.7. TT 44: RC 35: D 23.7. Refers to J. C. Clausen, C. W. Comstock, H. W. Dennis, N. A. Eckart, W. L. Huber, C. H. Rhudy, E. J. Waugh.

635 (15) PRICE, PINCKNEY BRYAN, 501 W. 10th St., Bonham, Tex. (Age 26. Born Honey Grove, Tex.) 1920 B. S., Agri. and Mech. Coll. of Tex. June to Sept. 1916 Rodman with Calvin E. Cock, Honey Grove, Tex. June to Sept. 1917 Instrumentman with Cock & Nagle, Cooper, Tex. TT 2: SP 2. June 1920 to June 1921 Asphalt Chemist, Pittsburgh Testing Laboratory, Little Rock and Dallas, Tex. TT 1: P 1: RC 0.7. June 1921 to May 1922 Asst. Engr. with Calvin E. Cock, Rusk, Tex. TT 0.9: P 0.9: D 0.5. May to Dec. 1922 Res. Engr., Road Dist. No. 4, Fannin County. TT 0.6: P 0.6: RC 0.2: D 0.2. Dec. 1922 to date County Engr., Fannin County, at Bonham, Tex. TT 1.6: P 1.6: RC 1.6. TT 6.1: SP 2: P 4.1: RC 2.5: D 0.7. Refers to C. E. Cock, W. D. Dockery, J. D. Fauntleroy, J. C. Felld, A. C. Love, J. C. Nagle, J. M. Page, R. J. Windrow.

636 (7) RADER, LLOYD FORREST, 519 Linden St., Ann Arbor, Mich. (Age 21. Born Lincoln, Nebr.) 1924 B. S. in C. E., Univ. of Mich. June to Sept. 1922 Res. Engr., Board of Town Trustees, Beach Grove, Ind., surveying and inspecting extensive street improvements. Aug. to Sept. 1923 Deputy Surveyor, Bartholomew County, Ind., surveying and inspecting highway construction. Sept. 1923 to date Asst. in highway engineering to Prof. Arthur H. Blanchard (while student in Civ. and Highway Eng. at Univ. of Michigan). TT 3.3: SP 3.3. Refers to A. H. Blanchard, W. C. Hoad, H. W. King, H. E. Riggs, R. S. Swinton.

637 (1) RAMOS, THEODORO AUGUSTO, 493-A Rua Augusta, Sao Paulo, Brazil. (Age 29. Born Sao Paulo, Brazil.) 1917 C. E., Polytechnic School (Univ. of Rio de Janeiro); 1918 Dr. of Physical and Math. Sciences, Univ. of Rio de Janeiro. 1916 to 1917 Instructor in railways and roads, Polytechnic School (Univ. of Rio de Janeiro). 1917 to 1918 in charge of reconstruction of sugar factory, Usina Cambahyba, City of Campos, Brazil. TT 3: SP 2: P 1: RC 1. 1918 to 1919 Prof. in charge of higher mathematics, Polytechnic School of Sao Paulo, for Govt. of Sao Paulo, and since 1919 Asst. Prof. of Higher Mathematics; has also substituted for Professors of Theoretical and Applied Mechanics; also had charge of various engineering developments for Govt. of State of Sao Paulo. 1924 Delegate from Brazil to Pan-American Highway Comm. TT 6: P 6: RC 6. TT 9: SP 2: P 7: RC 7. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

638 (1) RAYNER, ADRIEN BOOKER, Gurdaspur, Punjab, India. (Age 31. Born Gainsborough, England.) 1913 B. E., also M. E., Univ. of Sheffield. Sept. 1913 to Dec. 1914 Draftsman, Dorman, Lon & Co., Middlesbrough, England, on structural steelwork. TT 3.3: SP 3.3. May 1915 to June 1919 with Corps of Royal Engrs. in England, France and Belgium, first as 2d Lieut. and after Aug. 1916 Capt. TT 4: P 4: RC 3. 1919 to 1924 Asst. Executive Engr., Indian Service of Engrs., Irrigation Dept., Punjab, India, in charge of canal headworks. TT 3.5: P 3.5: RC 2.5: D 2.5. 1924 to date Executive Engr., 1st

Div., Upper Bari Doab Canal, Punjab, in charge of headworks of canal and main line and river training works. *TT 0.1: P 0.1: RC 0.1: D 0.1.* *TT 10.9: SP 3.3: P 7.6: RC 5.6: D 2.5.* Refers to J. Husband. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

639 (3) REINECKE, PAUL SORG, Major, Corps of Engrs., U. S. Army, 540 Federal Bldg., Buffalo, N. Y. (Age 36. Born Pittsburgh, Pa.) 1911 U. S. Mil. Acad., commissioned 2d Lieut. of Engrs. 1913 U. S. Army Engr. School, Washington Barracks, D. C. *TT 2: SP 2.* Sept. 1906 to June 1907 student, Carnegie Tech. School, School of Applied Science, Pittsburgh, Pa. June 1907 to June 1911 student, U. S. Mil. Acad. *TT 0.3: SP 0.3.* Sept. 1911 to Sept. 1912 instructional duty in river and harbor work at Rock Island, Ill., Memphis, Tenn., New Orleans, La., Canal Zone, Panama, and Pittsburgh, on river regulation, dredging, levee work, lock and dam construction, dock design and construction, surveying, excavation, drainage, water supply, railroad transportation, etc. *TT 1: SP 1.* Sept. 1912 to Oct. 1913 post-graduate engineering course, U. S. Engr. School, Washington Barracks, D. C. *TT 1.1: P 1.1.* Oct. 1913 to Oct. 1915 Lieut. with Engr. Troops at Washington Barracks, 1 year as Company Officer and 1 year Quartermaster; last year special work, in charge of repairs and construction work at post, reconstruction of wharf, and rebuilding sea wall, repair of roads and walks, installation of new private branch common battery exchange. *TT 2: P 2: RC 1.* Nov. 1915 to June 1917 Lieut. and Capt., Engr. Troops, in Hawaii, special work making topographic, hydrographic and geodetic survey of Island of Oahu. *TT 1.6: P 1.6: RC 1.6.* July 1917 to Feb. 1919 Capt., Major, Lt.-Col. and Col., Engr. Corps, various work, mainly training engineer troops. *TT 1.7: P 1.7: RC 1.7.* Feb. 1919 to June 1922 Asst. to U. S. Dist. Engr. at Galveston, Tex., on river and harbor and fortification work along Gulf coast from Sabine to Brownsville, Tex., in direct charge (under general supervision of Dist. Engr.) of operation of government fleet of seven hydraulic dredges with attendant plant, repair yards, etc., in charge of purchases for district; Disbursing Officer for district. *TT 3.3: P 3.3: RC 3: D 2.* June 1922 to date U. S. Dist. Engr. (under Chf. of Engrs., U. S. Army), in charge of Buffalo Dist., comprising river and harbor work along southern shore of Great Lakes and connecting rivers from Sandusky, Ohio, to Massena, N. Y., consisting of dredging, design, construction and repair of breakwaters, piers and jetties, supervision of construction work in navigable waters under War Dept. permits, and supervision of water withdrawal from boundary waters for power purposes under treaty of 1909. *TT 1.8: P 1.8: RC 1.8: D 1.8.* *TT 14.8: SP 3.3: P 11.5: RC 9.1: D 3.8.* Refers to L. M. Adams, R. W. Berdeau, S. Cosby, G. E. Edgerton, W. Gerlig, N. R. Gibson, J. L. Harper, W. S. Richmond, J. W. Rickey, J. G. Warren.

640 (10) RHODES, RALPH FARNHAM, 5 East 55th St., Savannah, Ga. (Age 44. Born Meadville, Miss.) 1900 B. S., and 1901 C. E., La. State Univ. 1901 to 1904 Track Apprentice to Res. Engr., Y. & M. V. R. R., maintenance and construction. *TT 6.* 1904 to 1905 with City of Memphis, Tenn., in charge of survey party on layout and construction of parks and parkways. *TT 1: RC 1.* 1905 to 1907 Supt. for Contr., on construction of levee and of Bee Tree Shoals Canal, Alabama. *TT 2: RC 2.* 1907 to 1909 in private practice, timber land and drainage surveys; and plans and erection of four steel highway bridges. *TT 2: RC 2: D 2.* 1909 to 1919 with U. S. Engr. Office, Newport, R. I., 4 years as Draftsman in charge of preparation of maps for Intra Coastal Waterway, Narragansett Bay, N. Y., and general drafting and computing; 6 years Jun. Engr. from 1913 to 1917 (4 years) on river and harbor work, office and field, principal work on Providence Harbor, R. I., Fall River, Mass., New Bedford Harbor, Mass., Pollock Rip Channel, and breakwater construction, Pt. Judith Harbor of Refuge; last 2 years on fortifications, design and construction of searchlight installations, mining casemates and other buildings; conduit lines, wharves and general fortification repairs in Coast Defenses of Narragansett Bay and New Bedford Harbor, Mass., in direct charge of design of details, construction of and mounting armament on two 12-in. gun battery at Fort Rodman, Mass. (1917 to 1919). *TT 10: RC 2: D 10.* 1919 to 1921 with U. S. Engr. Office, Florence, Ala., as Asst. Engr. on construction of Div. No. 2 (power house); in charge of field engineering; layout of permanent work, estimates, progress reports, selection of construction plant, field costs, design and location of buildings for construction purposes, layouts of tracks, power lines, forms, coffer dams, etc.; promoted to Supt. of Constr., in charge, principally rock excavation on a large scale, mixing and placing of concrete, coffer dam construction, construction and operation of railroads, tunnel driving in rock, form construction, etc. *TT 2: RC 2: D 2.* 1921 to date with U. S. Engr. Office, Savannah, Ga., in charge of general engineering subdivision, preparation of examination and survey reports on, and of plans and specifications for maintenance and improvement of, river and harbor projects, also of annual, monthly and other

periodical reports on river and harbor improvement, and of permit plans for work by private parties in navigable waters; supervision of work of survey parties, contract work for river and harbor improvements, preparation and care of all maps and plans, inspection of work done under War Dept. permits, reports of violations of laws for protection of navigable waters; supervision of collection of commercial statistics, records of river stages and tidal data, and of construction of works for river regulation. *TT 3: RC 3: D 3. TT 26: RC 12: D 17.* Refers to F. W. Altstaetter, J. S. Butler, M. Elliott, S. C. Godfrey, L. L. Holland, B. P. McWhorter, F. C. Warner.

641 (5) **RICHARDS, WILLIAM HENRY, Jr.**, 3343 Interior Dept. Bldg., Washington, D. C. (Age 37. Born Miller, S. Dak.) Licensed Prof. Engr., State of Iowa. 1911 B. C. E., Univ. of Mich. June to Oct. of years 1907 and 1908, and June to Sept. 1909 Flagman and Chairman for Johnson & Jaeckel, Contr. Deputy Surveyors, U. S. Public Land Surveys. *TT 2.4: SP 2.4.* July 1911 to 1915 Transltman, and 1915 to April 1918 U. S. Surveyor and Cadastral Engr., Gen. Land Office, U. S. Interior Dept.; Associate and Chf. of Party on cadastral surveys and resurveys in Wyoming, Idaho, Florida and Colorado. *TT 6.8: P 6.8: RC 4.* April 1918 to Jan. 1919 Private and Non-Commissioned Officer. Meteorological Sec., Signal Corps, U. S. Army. attended school of instruction in meteorology at College Station, Tex., Weather Bureau, Washington, D. C., testing theodolites and operation, sounding balloon observations and reports on wind direction and velocity, upper air for aviation and artillery. *TT 0.8: P 0.8.* Jan. 1919 to July 1920 U. S. Surveyor and Cadastral Engr. as Chf. of field party in field and office, on cadastral surveys and resurveys, investigation of swamp and tide lands, appraisal of lands, investigation in preparation for trials in behalf of the United States, including stellar observations, complicated field procedure, examination of land records and evidence, astronomical and surveying computations. *TT 1.5: P 1.5: RC 1.5: D 0.5.* Aug. 1920 to April 1923 Road Designer, Iowa State Highway Comm. and Office Engr., Dist. No. 9, Iowa Highway Comm., Res. Engr. during summer 1921; Federal Aid and primary road plans, supervision of road construction, estimates of quantities, costs and materials. *TT 2.7: P 2.7: RC 2.7: D 1.7.* April to Oct. 1923 Res. Engr. for Price & McCormack, Cons. Engrs., Des Moines, Iowa, in charge of concrete and brick paving and curbing, Fairfield, Iowa, revision and laying grades; preliminary surveys for sidewalk grades; reports and estimates, computation of assessments. *TT 0.5: P 0.5: RC 0.5: D 0.2.* Oct. 1923 to date Cadastral Engr., Administrative Office of Commr., Gen. Land Office, Washington, D. C., reviewing plans, specifications and returns of cadastral engineering projects with responsibility for acceptance or rejection, preparation and design of instructions for cadastral surveys and resurveys, investigations, technical procedure. *TT 0.7: P 0.7: RC 0.7: D 0.7. TT 15.1: SP 2.4: P 12.7: RC 9.4: D 3.1.* Refers to C. D. Avery, W. R. Bandy, C. C. Coykendall, H. R. Farnsworth, G. W. Morton, H. B. Patten, W. A. Richards, J. C. Thoma, C. C. Tudor.

642 (5) **RICHARDSON, EARLE WESLEY**, 1721 Twenty-first St., N. W., Washington, D. C. (Age 28. Born New York City.) May 1916 to June 1917 Chairman, Rodman and Transltman with G. W. Fitchette & H. Massey, Engrs., on subdivision of farms, lots, drafting and computing. *TT 1.1: SP 1.1.* June to Dec. 1917 Transltman on construction, Raymond Concrete Pile Co., Baltimore, Md., gave building lines, grades, in charge of progress maps, estimated formwork, etc. *TT 0.5: SP 0.5.* Dec. 1917 to March 1918 with Maryland Dredging & Contr. Co., on construction of Aberdeen Proving Ground, Md., as Transltman, Levelman, computing, layout of buildings. *TT 0.3: SP 0.3.* March 1918 to March 1919 with U. S. Navy, Navi Operating Base, Hampton Roads, Va., in Public Works Dept. as Time and Material Checker, later on Eng. Corps as Transltman, layout of buildings, warehouses, hangars, sewers, roads, hydrographic surveying. March to Oct. 1919 on same work as Chf. of Party on layout of ladder track, buildings and sewers. *TT 1.5: SP 1.5.* Oct. 1919 to May 1920 with his father as Engr. on construction of brick and stone bakery, gave lines for building, grades for excavation, employing men and ordering material, assisted in supervising work. *TT 0.6: SP 0.6.* May to Oct. 1920 with Newport News Shipbuilding Co., C. E. Dept., as Inspector, Draftsman, charge of laying out drains, buildings, Transltman on maintenance in connection with railroad tracks in yards. *TT 0.4: SP 0.4.* Jan. 1921 to May 1922 with his father, first 8 months as Estimator on reinforced concrete and brick structures, mostly small apartments, last 8 months as Engr. on construction of brick apartment, building lines and grades, looking after materials and assisting in supervising work. *TT 1.3: SP 1.3.* July 1922 to March 1924 Engr. in charge of Cost Div., Public Bldgs. and Grounds, War Dept., Washington, D. C., responsible for all costs of maintenance and construction in connection with the White House, Lincoln Memorial, reflecting pool, all parks in city, 30 motor trucks, shops and storehouses. Aug. 1922 to date taking course

in Structural Eng., Univ. of Wisconsin Extension Div. TT 1.6: SP 1.6. TT 7.3: SP 7.3. Refers to J. J. Charters, F. W. McKinney, J. L. Nagle, C. A. Peters, Jr., G. J. Requaert, C. O. Sherrill.

643 (14) RIDDELL, JOHN CALVIN, 700 Highland Ave., Salina, Kans. (Age 24. Born Enterprise, Kans.) 1924 B. S. in Civ. Eng., Kans. State Coll. Sept. 1921 to Feb. 1922, June to Sept. 1922, and Aug. 1923 on general work with Gordon Walker Constr. Co. TT 2. Refers to L. E. Conrad, F. F. Frazier, M. W. Furr, F. E. Hayes, Jr., H. B. Walker.

644 (12) RIGLER, HOWARD MACCARMONT, 923 Electric Bldg., Portland, Ore. (Age 33. Born Oregon City, Ore.) Registered Engr., State of Oregon. Sept. 1909 to June 1911 student, Univ. of Ore. Sept. 1911 to Jan. 1913 Rodman, Draftsman and Instrumentman for Samuel Evans, Constr. Engr., Honolulu, Hawaii, lighthouse and railroad location and construction. TT 1.4: SP 1.4. May 1913 to Aug. 1914 Draftsman, Jun. Engr., Pacific Telephone & Telegraph Co., Plant Eng. Dept., Portland, Ore. TT 1.3: SP 1.3. Aug. 1914 to Feb. 1915 Instrumentman, Valley & Siletz R. R. Co., Portland. TT 0.5: SP 0.5. July 1915 to Oct. 1919 (except May 1917 to Feb. 1919 with U. S. Navy) with Lumbermen's Eng. Co., Portland, until May 1917 as Draftsman, Instrumentman, Chf. of Party and Res. Engr. on location and construction of logging railroads, topographic surveys; after Feb. 1919 Chf. of Party, Res. Engr. on logging railroad location and construction. TT 2.6: SP 1: P 1.6: RC 1.2. Oct. 1919 to Jan. 1920 Chf. of Party, railroad location, Bear Creek Logging Co. TT 0.3: P 0.3: RC 0.3. Jan. to Sept. 1920 Engr., Wells Bros. Constr. Co., Chicago, Ill., supervision of construction of warehouse for Montgomery, Ward & Co., Portland. TT 0.8: P 0.8: RC 0.8. Oct. 1920 to Oct. 1922 independent work, general surveying, logging topography, logging railroad locations, supervision of building construction, building design. TT 2: P 2: RC 2: D 0.5. Nov. 1922 to date Res. Engr., Asst. Engr., Portland Ry., Light & Power Co. (now Portland Elec. Power Co.), Res. Engr. on railroad location and construction, Oak Grove Project; field engineering, location work in connection with hydroelectric investigations: Asst. Engr. in office, hydraulic studies, building design. TT 1.5: P 1.5: RC 1: D 0.5. TT 10.4: SP 4.2: P 6.2: RC 5.3: D 1. Refers to C. N. Bennett, W. E. Buell, Jr., C. P. Dunn, K. D. Hauser, H. A. Rands, W. L. Sharp.

645 (1) RIVERO, JUAN RAMON, Casilla Correo 45, Cochabamba, Bolivia. (Age 28. Born Cochabamba, Bolivia.) 1921 C. E., Federal Pol. Univ., Zurich, Switzerland. 1920 to 1922 Technical Attaché of Bolivian Delegation at League of Nations in Geneva, Switzerland. TT 4: SP 2: P 2. June to Nov. 1922 on exploration of Rio Ichilo for Cochabamba-Sta. Cruz R. R. TT 0.5: P 0.5. Nov. 1922 to date Chf. Engr., LaPaz-Yungas R. R., and in charge of construction of Yungas highways. June 1924 Delegate from Bolivia to Pan-American Highway Comm. TT 1.6: P 1.6: RC 1.6. TT 6.1: SP 2: P 4.1: RC 1.6. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

646 (7) RUPPEL, WALTER HENRY, Webster City, Iowa. (Age 26. Born Webster City, Iowa.) 1924 B. S. in C. E., Iowa State Coll. TT 2: SP 2. Refers to T. R. Agg, R. A. Caughey, W. L. Foster, A. H. Fuller, J. H. Griffith, C. S. Nichols.

647 (14) RUSSELL, GEORGE RAYMOND, 4238 Mercier St., Kansas City, Mo. (Age 33. Born Rosedale, Kans.) Student, Civ. Eng. School, Kansas State Agricultural Coll. (1910 to 1912) and Eng. School, Kansas Univ. (1912 to 1913). TT 1: SP 1. April 1913 to June 1918 City Engr., Rosedale, Kans., in complete charge of all public improvements, detail design and specifications for all paving, sewers and water extensions, also preliminary work on Turkey Creek Diversion Project. TT 5: P 5: RC 5. June 1918 to Dec. 1919 with Aeronautical Div., U. S. Army: Graduate, Cornell Univ. Ground School. May 1919 to May 1920 Civ. Engr. Dallas, Tex. Property Owners Association, made property survey and prepared property classification map of Dallas, also plans of Trinity River Reclamation Project. TT 1: P 1. May 1920 to Aug. 1922 Asst. Chf. Engr., Swift & Co., Kansas City, Kans. TT 2.2: P 2.2. April 1923 to date Mech. Engr., Sinclair Refining Co., Kansas City, Kans. TT 1: P 1. TT 10.2: SP 1: P 9.2: RC 5. Refers to L. Arnold, L. R. Ash, E. E. Howard, L. V. Sheridan, J. B. Stein, K. K. Wyatt.

648 (8) RUSSELL, HOWARD WOOTTEN, 628 South 5th St., Springfield, Ill. (Age 37. Born Farmington, Del.) 1908 B. S. in C. E., Univ. of Pa. 1909 Leveler, Delaware, Lackawanna & Western R. R. TT 2.3: SP 2.3. 1909 to 1913 Draftsman, Pennsylvania R. R., surveys, drafting and maintenance, office work. TT 4: SP 4. 1913 Draftsman, J. G. White Eng. Corporation, New York City, drafting and designing reinforced concrete struc-

tures. *TT 0.7: P 0.7: D 0.7.* 1913 to 1914 Engr., Nevada New Mines Co., Rawhide, Nev., on design and construction of ore bins and mine surveying. *TT 1: P 1: RC 1.* 1914 to 1921 Jun. and Senior Civ. Engr., Interstate Commerce Comm., Bureau of Valuation, Washington, D. C., special assignments, in charge of inventory of grading, yards and tracks, roadway structures, bridges and buildings. *TT 7.1: P 7.1: RC 5.1.* 1921 to 1923 (at odd times) studied Structural Eng. with Wilson Eng. Corporation, Hanover, Mass., completed course. 1922 Eng. Accountant, Southern Ry. Co., Washington, D. C., preparing valuation data on bridges and culverts for Interstate Commerce Comm. *TT 0.3: P 0.3: RC 0.3.* 1922 to 1923 Jun. Testing Engr., State of Illinois, Div. of Highways, Springfield, Ill., testing and inspection of highway materials; and 1923 to 1924 Asst. Engr. of materials, carrying on investigation of stresses in concrete highways by means of strain gauges. *TT 2: P 2: RC 2.* *TT 17.4: SP 6.3: P 11.1: RC 8.4: D 0.7.* Refers to R. R. Benedict, G. F. Burch, H. F. Clemmer, E. D. Dryfoose, C. M. Hathaway, C. Older, E. F. Wendt.

649 (5) SAENG-XUTO, SRA MONGKALA, 2854 Connecticut Ave., Washington, D. C. (Age 21. Born Bangkok, Siam.) 1924 C. E., Rens. Pol. Inst. *TT 2: SP 2.* Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, E. A. Touceda.

650 (14) SAGAL, MARCUS, Mineola, Mo. (Age 24. Born Ekaterinoslov, Russia.) 1921 C. E., Cornell Univ. Nov. 1921 to date with Illinois Div. of Highways, 1 year as Instrumentman and since then Res. Engr. on construction. At present Project Engr., Missouri Highway Comm. *TT 4.5: SP 3: P 1.5.* Refers to F. A. Barnes, G. F. Burch, C. M. Hathaway, F. J. Seery, F. Tarrant.

651 (15) SANTACRUZ, ARMANDO, Jr., P. O. Box 14, El Paso, Tex. (Age 25. Born Mexico City, Mexico.) 1919 Surveyor and Hydrographer, and 1923 C. E., School of Eng., Univ. of Mexico. 1918 to 1920 Asst. and Acting Prof. of Surveying, same school. *TT 2: SP 2.* 1921 to 1922 Asst. Engr., 1922 to 1923 Chf. Engr., and 1923 to date Cons. Engr., Mexican Sec., International Boundary Comm., United States and Mexico. Since 1922 also Secy., Board of International Waters of Mexico. *TT 3: P 3: RC 2.* *TT 5: SP 2: P 3: RC 2.* Refers to C. S. Clark, C. E. Ellsworth, J. B. Hawley, L. M. Lawson, J. A. Norris, A. Pani, L. Perez Castro.

652 (8) SCHROEDER, WILLIAM CHARLES, 926 Oakdale Ave., Chicago, Ill. (Age 37. Born Jersey City, N. J.) 1912 to 1914 Draftsman, D. H. Burnham & Co., Chicago, Ill., steel and reinforced concrete structures. *TT 2.5: P 2.5.* 1914 to 1916 Chf. Draftsman with G. H. Shanley, Great Falls, Mont., construction, reinforced concrete and masonry structures. *TT 1.6: P 1.6: RC 1.6: D 1.6.* 1916 to 1918 in private practice as Engr. and Archt. (W. C. Schroeder, Inc.), Havre, Mont., bridges and buildings. *TT 2.4: P 2.4: RC 2.4: D 2.4.* 1918 to 1923 Asst. Engr., North Dakota State Highway Comm., Bismarck, N. Dak., bridges, steel and reinforced concrete. *TT 4.6: P 4.6: RC 2.3: D 1.5.* 1923 to date Draftsman in charge of buildings with Graham, Anderson, Probst & White, Chicago (Successor to D. H. Burnham & Co.). *TT 1.1: P 1.1: RC 1.1.* *TT 12.2: P 12.2: RC 7.4: D 5.5.* Refers to T. R. Atkinson, W. G. Black, E. R. Griffin, P. M. Larsen, W. W. Moyer.

653 (13) SCHUYLER, PHILIP, 1111 Crocker Bldg., San Francisco, Cal. (Age 44. Born Mexico City, Mexico.) 1897 to 1899 (1½ years) student, Cornell Univ. *TT 0.3: SP 0.3.* 1899 to 1902 with California Debris Comm.—U. S. Corps of Engrs., as Rodman, Instrumentman, Draftsman and Engr. in charge of field survey parties, also Inspector, hydraulic mines, etc., regulation of hydraulic mining. *TT 2.5: SP 1: P 1.5.* 1902 to 1904 with W. P. Hammon, Oroville, Marysville and San Francisco, as Civ. Engr. in charge of surveys, principally on Yuba River gold dredging operations, map work and mining location surveys, etc. *TT 2: P 2.* 1904 to 1905 with Jas. Dix Schuyler, Los Angeles, as Draftsman and on office work, field survey work and Inspector, also City Engr., Ocean Park and Venice, Cal. *TT 1: P 1: RC 0.5: D 0.5.* 1905 to 1906 with Tri-State Land Co. of Nebraska, at Scottsbluff, Nebr., on canal location surveys, planetable topography, Asst. Engr. and Engr. in charge, construction camp, for 11 miles of canal, eight contractors and Force Account Div. *TT 1: P 1: RC 0.8: D 0.2.* 1906 to 1907 Asst. Engr., Monterey (Mexico) Water Works & Sewer Co., Ltd., in charge of construction, City Div., of complete water system and part time supervision of sewer system for city. *TT 1.2: SP 0.2: P 1: RC 0.8: D 0.2.* 1907 to 1912 with Stephen E. Kieffer, Cons. Engr., San Francisco and Bay Cities subdivisions, sewers, water-works, irrigation, etc.; 1908-1909 (1 year) in charge surveys and soil surveys, 100 000-acre reclamation project; 1909-1912 Mgr., Western Eng. & Water Supply Co., engineering design and contract work, private and public. *TT 5: P 5: RC 3: D 2.* 1912 to 1918 Gen. Contr., water-works, sewers, canals, mostly municipal and government work, including water supply

system for Panama Pacific International Exposition and canal (heavy construction) for Orland Project, U. S. Reclamation Service, in California and Nevada. TT 5.3: P 5.3. 1918 to 1919 Asst. Engr. on design and supervision of construction of Mare Island, Vallejo, Cal., permanent housing project, U. S. Housing Corporation, grading, paving, water and sewers, gas, street and house lighting, pumping plant and reservoir. TT 1: P 1: RC 0.5: D 0.5. 1919 to 1921 associated with Theo. F. Dredge, Factory Sales Representative for Coffin Valve Co., Richardson-Phoenix Co. (Oil filters, etc.), Economy Pumping Machinery Co., International Filter Co., and four others, sales engineering work. TT 2: P 2: D 0.5. Aug. 1921 to July 1923 Sales Engr., International Filter Co. of Chicago, Ill., in charge of San Francisco and Los Angeles offices, water filtration and water softening plants of all types and sizes. TT 2: P 2: D 0.5. July 1923 to date Sales Engr., Gladding, McBean & Co., San Francisco, promotional work. TT 0.8: P 0.8. TT 2.1: SP 1.5: P 2.2: RC 5.6: D 4.4. Refers to H. R. Church, H. I. Dygert, C. E. Grunsky, S. F. Kieffer, G. C. D. Lenth.

654 (1) SEAMAN, MILTON BENNETT, 57 N. Main St., Freeport, N. Y. (Age 21. Born Freeport, N. Y.) 1924 C. E., Rens. Pol. Inst. TT 2: SP 2. Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, W. W. Rousseau.

655 (13) SEARANCE, STEPHEN HENRY, 2209 Eye St., Sacramento, Cal. (Age 37. Born Belfast, Ireland.) 1910 B. A., Dublin (Ireland) Univ. Aug. 1910 to Aug. 1912 various work as Chainman, Levelman, etc. TT 2: SP 2. Aug. 1912 to Sept. 1914 Chf. of Party on various work, 8 months in charge of survey camp, much of time during winter on office work, Yolo Water & Power Co., Woodland, Cal. TT 2.1: P 2.1. Sept. 1914 to June 1917 Instrumentman, Inspector, Timekeeper, costkeeping, keeping record of distribution of water on small irrigation system, Natomas Co., Sacramento, Cal. TT 2.8: SP 2: P 0.8. June 1917 to Jan. 1918 Chf. of Party, Reclamation Dist. 1500, Sacramento, Jan. 1918 to Jan. 1919 with U. S. Army. TT 0.6: P 0.6. Jan. 1919 to July 1921 Chf. of Party, Sutter Basin Co., Grafton, Cal., later had charge of subdivision of about 20,000 acres of agricultural land, involving direction of field parties and computers and draftsmen. TT 2.5: P 2.5: RC 1.5. July to Dec. 1921 in City Engr.'s office, on various field and office work. TT 0.5: P 0.5. Dec. 1921 to June 1923 Senior Office Engr., State Dept. of Eng. and Irrigation, on investigation of water resources of California. TT 1.5: P 1.5. June 1923 to date with State Reclamation Board, Sacramento, for some months had charge of field work, surveys, levee building, etc.; at present in charge of the office. TT 1: P 1: RC 1. TT 1.8: SP 4: P 9: RC 2.5. Refers to H. A. Armstrong, P. Bailey, R. G. Chifford, J. Crowley, E. J. Davis, A. Givan, R. L. Jones, F. H. Tillinghast.

656 (10) SELLERS, FRANCIS BACHMAN, Washington, N. C. (Age 28. Born Charleston, S. C.) 1918 B. S. in C. E., Univ. of Ga. June 1918 to Jan. 1920 Office Engr. with Garrett & Slack, Montgomery, Ala., designing highway bridges and roads. TT 3.5: D 1.5. Jan. to May 1920 Asst. Div. Engr., State Highway Dept., La Grange, Ga., in general charge of construction (under Div. Engr.) of all bridges and roads in Fourth Dist. TT 0.3: RC 0.3. May to Sept. 1920 and June 1921 to April 1922 in private practice, surveying and engineering, at La Grange. TT 1.2: RC 1.2. Sept. 1920 to June 1921 Supt., O. A. Mann & Co., building bridges and culverts on La Grange-West Point Road. TT 0.7: RC 0.7. April 1922 to Jan. 1924 Contr. Engr. and Gen. Supt., Batson-Cook Co., West Point, Ga., bidding and having charge of construction of Projects 152, 157B, 200, 201, 312 and 316 for North Carolina State Highway Comm., Raleigh, N. C. TT 1.7: RC 1.7. Jan. 1924 to date Contr. Engr. and Gen. Supt., O. A. Mann & Co., La Grange, bidding on and having general charge of construction of Project 135 for Georgia Highway Dept., a \$115,000 bridge over Satilla River. TT 0.6: RC 0.6. TT 8.1: RC 4.6: D 1.5. Refers to J. W. Barnett, J. M. Garrett, W. R. Neel, S. B. Slack, H. G. Smith, C. M. Strahan.

657 (15) SHAFER, GEORGE ELMER, Paradis, La. (Age 26. Born Garrison, Iowa.) 1923 B. E., and 1924 M. S., State Univ. of Iowa. June to Sept. 1920 Asst. to Res. Engr. on paving work at Reinbeck, Iowa. June 1923 to June 1924 Research Asst. in Hydraulics and Mechanics, State Univ. of Iowa. TT 3: SP 2: P 1. Refers to R. B. Kittredge, F. A. Nagler, W. G. Raymond, S. M. Woodward, D. L. Yarnell.

658, (1) SHEEHAN, BERNARD GEOFFREY, 22 Third St., Weehawken, N. J. (Age 22. Born Blackrock, Ireland.) 1922 B. E., Trinity Coll., Dublin Univ. Jan. to July 1923 Constructional Draftsman to Office of Public Works, Ireland. TT 2.5: SP 2: P 0.5: RC 0.5: D 0.5. July to Oct. 1923 Asst. Engr. with C. S. Melk & Buchanan, London, England. TT 0.2: P 0.2: RC 0.2: D 0.2. TT 2.7: SP 2: P 0.7: RC 0.7: D 0.7. Refers to C. E. Beam, V. T. Boughton, D. Clark, E. Klapp, W. B. Parsons.

659 (10) SHRANK, HOUSTON CHARLES RUDOLPH, Room 40, Municipal Bldg., Chattanooga, Tenn. (Age 25. Born Munich, Bavaria.) Student at Georgia School of Technology (1 year) and DePaul Univ. Coll. of Eng. (1 year). TT 0.6: SP 0.6. Oct. 1922 to April 1923 Draftsman in Floor Plans Sec., Western Elec. Co., Cicero, Ill. TT 0.5: SP 0.5. April 1923 to March 1924 Computer Draftsman, Bethlehem Steel Co., Steelton, Pa., calculating lengths of special track work, such as curves, frogs, switches, etc. TT 0.9: SP 0.9. March 1924 to date Draftsman, U. S. Engr. Office, Chattanooga, Tenn. TT 0.2: SP 0.2. TT 2.2: SP 2.2. Refers to C. A. Alden, G. C. Danforth, G. C. Haydon, W. R. King, A. H. Van Cleave.

660 (10) SHUMAKER, LLOYD MELVILLE, 1705 West End Ave., Nashville, Tenn. (Age 29. Born Centerville, Mich.) 1915 B. S. in Civ. Eng., Mich. Agri. Coll. Sept. 1915 to Nov. 1916 Draftsman and Instrumentman, Cox, Shaver & Co., at Hillsdale and Coldwater, Mich., highway and general engineering. TT 3.2: SP 3.2. Nov. 1916 to March 1917 Draftsman, Valuation Dept., Michigan Central R. R. Co., Detroit, Mich. TT 0.3: SP 0.3. March to Aug. 1917 and Dec. 1917 to May 1918 Engr. with Charles C. Cox, at Hillsdale, on location and design of State Aid highways. TT 1: P 1: D 0.3. Aug. to Nov. 1917 in Coast Artillery Corps and May to Dec. 1918 in Air Service. Jan. to March 1919 Senior Draftsman, Valuation Dept., Chicago, Milwaukee & St. Paul Ry., Chicago, Ill. TT 0.2: P 0.2. April 1919 to May 1921 County and Project Engr. for Adams County, Miss., and Mississippi State Highway Dept., Natchez, Miss.; Engr. in charge of location, design and construction of Federal Aid projects and supervision of construction and repair of county bridges. TT 2: P 2: RC 2. May to July 1921 Draftsman, Valuation Dept., M. C. R. R. Co. TT 0.2: P 0.2. July to Sept. 1921 Jun. Engr., Illinois State Highway Dept., Paris Dist., on supervision of pavement construction. TT 0.2: P 0.2. Sept. 1921 to date Res. Engr., Tennessee State Highway Dept., 8 months as Chf. of Party on location survey in mountainous country; 1½ years Engr. in charge of Federal Aid highway construction; 4 months in charge (office) of design of Federal Aid projects. TT 2.7: P 2.7: RC 2.4: D 0.3. TT 9.8: SP 3.5: P 6.3: RC 4.4: D 0.6. Refers to C. N. Bass, H. A. Burr, J. E. Moreland, C. H. Olmstead, W. H. Wilson.

661 (15) SLACK, THOMAS ALFRED, U. S. Geological Survey, Ft. Worth, Tex. (Age 24. Born Ft. Worth, Tex.) 1920 B. S., Va. Mil. Inst. 1922 C. E., Cornell Univ. July 1920 to June 1921 Instrumentman with Everglades Drainage Dist. of Florida, office work, drafting, computations, design and surveying. TT 3. Sept. 1922 to date Jun. Engr., U. S. Geological Survey, office and field work as Hydrographer, design and installation of gauging stations, TT 1.7: RC 0.7. TT 4.7: RC 0.7. Refers to C. S. Clark, A. H. Dunlap, C. E. Ellsworth, J. B. Hawley, J. A. Norris.

662 (11) SLATTERY, FREMONT W., 816 Heber St., Calexico, Cal. (Age 33. Born Lead City, S. Dak.) 1914 B. S. C. E., Highland Park Coll. (now Des Moines Univ.). Feb. 1915 to June 1922 with U. S. Reclamation Service, until Aug. 1917 as Instrumentman and Chf. of Party, Boise Project, on field investigations, location of drains, staking of canals, etc.; then Asst. Engr., Rio Grande Project, 1½ years on preparation of drainage program, estimates and designs and 3½ years in charge of construction camp building drainage and irrigation canals and structures, handling various excavating equipment and design. TT 9.3: SP 5.5: P 3.8: RC 3.8: D 3.5. June 1922 to Feb. 1923 Drainage Engr., Palo Verde Drainage Dist., in charge of investigations and locations of drainage canals and preparing plans and specifications for construction. TT 0.8: P 0.8: RC 0.8: D 0.8. Feb. 1923 to date Asst. Engr., Imperial Irrigation Dist., in charge of field operations in connection with study, design and construction of drainage system involving expenditure of about \$1 000 000 annually. TT 1.3: P 1.3: RC 1.3: D 1.3. TT 11.4: SP 5.5: P 5.9: RC 5.9: D 5.6. Refers to J. L. Burkholder, R. S. Carberry, L. M. Lawson, D. W. Murphy, F. D. Pyle.

663 (13) SLY, CLARENCE JEFFERSON, 2021 Channing Way, Berkeley, Cal. (Age 31. Born Bowling Green, Ohio.) 1923 B. S., Coll. of Civ. Eng., Univ. of Cal. Sept. 1911 to June 1912 and Sept. 1914 to June 1915 student, Dept. of Civ. Eng., Case School of Applied Science. June 1912 to Sept. 1914 and June 1915 to June 1916 Draftsman, Concrete Inspector, Engr.'s Supt., etc., Contr.'s Timekeeper, Straw Boss, Asst. Supt., etc., for various engineers and contractors, Cleveland and Columbus, Ohio. TT 5: SP 3.5: P 1.5: RC 0.5. July 1916 to Aug. 1917 Draftsman and Supt. of Constr. with Mayberry & Parker, Archts. and Engrs., Los Angeles, Cal., estimates, detailing, specifications and superintendence. TT 1.1: SP 0.1: P 1: RC 1. Sept. 1917 to Nov. 1918 2d Lieut., Engr. Officers' Reserve Corps, U. S. Army. TT 1: SP 1. Jan. 1919 to Aug. 1921 with Standard Oil Co. of California as Engr. in charge of general refinery construction, such as boilers, stills, boiler houses, etc. (approx. cost

\$1 500 000), El Segundo and Richmond, Cal. Aug. 1921 to May 1923 (evenings while student at Univ. of Cal.) Machinist and Boiler-maker's Helper, Welder's Apprentice. TT 2.7: SP 0.1: P 2.5: RC 2.5. May 1923 to Feb. 1924 Engr. and Office Mgr. with Reid Bros., Archts., San Francisco, Cal., estimates, specifications, contracts, engineering design, superintendence, etc. TT 0.7: P 0.7: RC 0.7. Feb. 1924 to date Structural Engr. with Christopher H. Snyder, Engr., San Francisco, on concrete and steel design. TT 0.3: P 0.3: RC 0.3: D 0.3. TT 10.8: SP 4.7: P 6: RC 5: D 0.3. Refers to W. H. Alderson, C. N. Bley, R. E. Davis, C. Derleth, Jr., F. F. Hall, L. W. Phelps, C. H. Snyder.

664 (11) SMITH, ELMER LEWIS, 42 W. Bellevue Drive, Pasadena, Cal. (Age 27. Born Melrose, Mass.) 1923 B. S., Cal. Inst. Tech. Summer 1914 Rodman and Chainman, and summer 1915 Laborer on construction, such as storm drains, etc., Eng. Dept., City of Pasadena, Cal. Summer 1918 Rodman, Transitman and Notekeeper, and June 1919 to June 1920 Transitman, California Highway Comm., on surveys. Spring 1919 Surveyor for Allin Bros., Civ. Engrs., Pasadena. TT 3.1. June to Aug. 1920 Chf. of Party, Southern California Edison Co., on hydraulic surveys, such as overhead tunnel line work and location of diversion dam. TT 0.1: RC 0.1. Aug. to Sept. 1921 Transitman, and June to Sept. 1922 Asst. Res. Engr., California Highway Comm., on construction of concrete highway. TT 0.4: RC 0.3. June 1923 to date Draftsman and Chf. of Party, Water Dept., Pasadena, on topographic surveys. TT 1: RC 1. TT 4.7: RC 1.4. Refers to T. D. Allin, W. W. Michael, S. B. Morris, R. V. Orbison, F. Thomas.

665 (6) SMITH, JOHN HAMMOND, Univ. of Pittsburgh, Pittsburgh, Pa. (Age 56. Born Wellsville, Ohio.) 1898 E. E., Western Univ. of Pa. (now Univ. of Pittsburgh). 1900 received Proficiency Certificate from Cornell Univ. Sept. 1895 to June 1898 (part of time) Student-Asst. Instructor and Sept. 1898 to June 1902 Supt. and Instructor in general shop practice, and Sept. 1902 to June 1909 Prof. of Drawing and Adjunct Prof. of Mathematics, Western Univ. of Pennsylvania. June to Sept. of years 1896 and 1898 Draftsman with Julian Kennedy, Cons. Engr., Pittsburgh, Pa. June to Sept. 1897 Supt. of electric light and power plant, Wellsville, Ohio. June to Sept. 1900 took special courses in Theory of Teaching, Mathematics, Physics and Shop Practice, Cornell Univ. June to Sept. of years 1902 and 1903 Draftsman, Ritter-Conley Mfg. Co., Pittsburgh; June to Sept. of years 1905-1907 with Concrete Products Co. of Pittsburgh. June to Sept. of years 1909 and 1910 Draftsman and Computer, American Bridge Co. TT 13.1: RC 8.8: D 1. Sept. 1909 to date Prof. of Civ. Eng. and Head of Dept. of Civ. Eng., and since April 1923 also Cons. Engr. on Pitt Stadium, University of Pittsburgh. TT 14.8: RC 14.8. TT 28: RC 23.6: D 1. Refers to R. A. Cummings, J. L. DeVou, C. G. Dunnells, J. Farris, F. W. Henrick.

666 (9) SMITH, RAYMOND HEWITT, Dept. of Highways and Public Works, Columbus, Ohio. (Age 38. Born in Rush Township, Champaign Co., Ohio.) 1914 C. E., Ohio State Univ. June to Sept. 1910 Rodman and Chainman, Cincinnati, Hamilton & Dayton Ry. June 1911 to June 1914 (from June 1913 to June 1914, while at school, part of time) Asst. on Eng. Corps, Columbus Div., Pittsburgh, Cincinnati, Chicago & St. Louis Ry. TT 2: SP 2. June 1914-Sept. 1915 Res. Engr. and Inspector on sewage-disposal plant, City of Urbana, Ohio, construction. TT 1.3: P 1.3: RC 1.3. Sept. to Oct. 1915 Asst. to Cons. Engr. on water supply test at Greenville, Ohio. Oct. 1915 to Sept. 1919 Res. Engr., Champaign County, in charge of state highway construction and maintenance and Deputy County Surveyor; except 3 months in 1917 while Capt., Ohio Signal Corps, on special work with Q. M. Corps, at Camp Willis, Columbus, Ohio, Asst. in charge of construction and in charge of camp maintenance. TT 4: P 4: RC 2: D 2. Sept. 1919 to Sept. 1923 County Surveyor and Res. Engr., Champaign County, road and bridge construction and maintenance, land drainage and surveys. TT 4: P 4: RC 4. Sept. 1923 to date Asst. Engr., Dept. of Highways and Public Works of Ohio, Div. of Highways. TT 0.8: P 0.8: RC 0.8. TT 12.1: SP 2: P 10.1: RC 8.1: D 2. Refers to V. A. Eberly, F. H. Eno, J. W. Graham, G. F. Schlesinger, W. G. Smith, A. Stelhorn, A. W. Zesiger.

667 (1) SNYDER, BAIRD, 34, 320 Academy Pl., Westfield, N. J. (Age 23. Born Lansford, Pa.) 1924 S. B., Mass. Inst. Tech. Aug. 1918 to April 1919 Chainman, Atchison, Topeka & Santa Fe Ry. June to Sept. 1923 Instrumentman, Philadelphia & Reading Coal & Iron Co., Pottsville, Pa. TT 2.7: SP 2.7. Refers to H. K. Barrows, H. L. Bowman, C. B. Breed, J. W. Howard, C. M. Spofford, R. G. Tyler.

668 (10) SOULE, JOHN EDWARD, Box 1544, Pensacola, Fla. (Age 23. Born Chicago, Ill.) 1924 B. S. in C. E., and M. S. in C. E., Univ. of Ala. June to Sept. 1921 Draftsman, Pensacola (Fla.) Shipbuilding Co., tracings and structural detailing. Aug. 1922 to Jan.

1923. Surveyman and Inspector, Escambia County, Fla., on concrete bridge and highway construction. TT 2.4: SP 2.4. June to July 1923 Res. Engr. on county highway paving, Escambia County, Fla., general engineering and supervision on concrete bridge and highway construction. TT 0.1: P 0.1: RC 0.1. July to Sept. 1923 2d Lieut., Engr. Reserve Corps, on active duty with engineer troops of U. S. Army at Ft. Bragg, N. C. TT 0.1: P 0.1. Sept. 1923 to June 1924 Graduate Student in Civ. Eng., Univ. of Alabama. TT 0.8: P 0.8. TT 3.4: SP 2.4: P 1: RC 0.1. Refers to H. E. Babbitt, I. O. Baker, G. J. Davis, Jr., S. C. Houser, C. L. Keller, L. E. Thornton.

669 (15) STAGG, JAMES RALPH, 521 E. 13th St., Dallas, Tex. (Age 22. Born Kirwin, Kans.) 1924 B. S. in Civ. Eng., Kans. Univ. TT 2: SP 2. Refers to W. C. McNowa, E. L. Myers, E. N. Noyes, H. A. Rice, F. A. Russell.

670 (10) STEELE, GARLAND F., Dept. of Constr., City Hall, Atlanta, Ga. (Age 25. Born Dawsonville, Ga.) Took course in Surveying and Mapping at International Correspondence School. July 1917 to Feb. 1918 Rodman with Knox T. Thomas, Civ. Engr. TT 0.6: SP 0.6. Feb. to June 1918 Rodman with Lockwood, Greene & Co., Engrs. TT 0.4: SP 0.4. June to Dec. 1918 and Oct. 1920 to July 1921 Instrumentman with Arthur Pew, Civ. Engr. TT 1.2: SP 1.2. Aug. 1921 to July 1922 Engr. on construction for N. Sargent Hamilton, Archt. TT 0.9: P 0.9. July 1922 to Feb. 1923 Asst. Engr. in charge of party with Knox T. Thomas, subdivision and city surveying. TT 0.7: P 0.7. Feb. to June 1923 Asst. Engr. in charge of party with W. J. Nalley, Engr., subdivision and city surveying. TT 0.3: P 0.3. June to Dec. 1923 Asst. Engr. in charge of party with O. I. Freeman, Civ. Engr., city and topographical surveys. TT 0.4: P 0.4. Dec. 1923 to date Engr. and Paving Inspector, Dept. of Constr., Street Dept., Atlanta. TT 0.3: P 0.3. TT 4.8: SP 2.2: P 2.6. Refers to W. A. Hansell, C. E. Kauffmann, A. Pew, L. W. Robert, Jr., F. W. Sampson.

671 (8) STODDARD, ALEXIS ERLING, 100 E. Washington St., Springfield, Ill. (Age 31. Born Villisea, Iowa.) 1916 B. S. in C. E., and 1921 C. E., Iowa State Coll. June 1916 to April 1917 Asphalt Chemist, City of Hastings, Nebr. TT 2.9: SP 2.9. May 1917 to April 1918 Jun. Testing Engr., and June 1919 to date Asst. Engr. of Materials, State of Illinois, Div. of Highways, Springfield, Ill. TT 5.5: SP 0.8: P 4.7: RC 2.7. April 1918 to May 1919 Soldier, 308th F. A., U. S. Army. TT 8.5: SP 3.7: P 4.8: RC 2.8. Refers to G. F. Burch, H. F. Clemmer, R. W. Crum, E. E. King, C. Older, F. T. Sheets, C. M. Slaymaker, F. Tarrant.

672 (9) STRAUS, HERMAN LOUIS, 1464 Third Ave., Louisville, Ky. (Age 24. Born Louisville, Ky.) 1923 B. S. in C. E., and 1924, C. E., Univ. of Ky. Summer 1920 Field Draftsman, Louisville Gas & Elec. Co., instrument work, map-making, etc. Summer 1922 Archt.'s Supt. with Joseph & Joseph, Archts. and Engrs., Louisville, Ky., field inspection. TT 2: SP 2. Oct. 1923 to date Designer, Stadium Bldg. Committee of Engrs., Univ. of Kentucky, Lexington, Ky., design of reinforced concrete stadium. TT 0.7. TT 2.7. Refers to C. T. Bishop, W. J. Carrel, J. F. Grimes, D. V. Terrell, O. W. Van Patten.

673 (12) STROYAN, PHILIP BATEMAN, 4312 Dundas St., Vancouver, B. C., Canada. (Age 23. Born Derby, England.) 1924 B. A. Sc. in Civ. Eng., Univ. of B. C. June-Aug. 1921 and Aug.-Sept. 1922 Rodman and Chainman, Water-Works Dept., City of Vancouver, B. C. June and July 1922 Rodman and Chainman, Capilano Timber Co., North Vancouver. June and July 1923 Instrumentman, and Aug. and Sept. 1923 Draftsman, Hydro-Electric Investigation, City of Vancouver. TT 2: SP 2. Refers to W. E. Duckering, E. G. Matheson. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

674 (1) SUOZZO, LEONARD SALVATORE, 23 West 83d St., New York City. (Age 29. Born Foggia, Italy.) 1917 graduated from Lowell Inst., Mass. Inst. Tech., Bldg. Course. Dec. 1914 to April 1915 and July 1916 to June 1917 Draftsman, Boston Bridge Works, East Cambridge, Mass., detailing and checking steel buildings, bridges. TT 1.3: SP 1.3. April 1915 to July 1916 Draftsman, New England Structural Co., Everett, Mass., detailing structural steel buildings and miscellaneous structures. TT 1.3: SP 1.3. June 1917 to July 1920 Draftsman, Submarine Boat Corporation, Newark, N. J., detailing, checking and designing ships and industrial buildings. TT 3: SP 2.5: P 0.5: D 0.5. July to Dec. 1920 Designer with Chas. T. Main, Engr., Boston, Mass., on industrial buildings, steel and concrete. TT 0.5: P 0.5: D 0.5. Jan. to July 1921 Designer and Supervisor, C. I. Brink Co., Boston, on Steel Structures. TT 0.5: P 0.5: RC 0.5: D 0.4. March to Aug. 1922 Estimator, Le Gault Constr. Co., Boston, estimating buildings. TT 0.4: P 0.4. Oct. 1922

to Aug. 1923 Draftsman with Post & McCord, New York City, detailing and checking structural steel, Polo Grounds, and Standard Oil Co. Bldg. TT 0.8: SP 0.4: P 0.4. Sept. 1923 to date Engr., Kovats & Knauber Iron Works, Inc., designing estimating and supervising structural steel buildings. TT 0.7: P 0.7: RC 0.7: D 0.5. TT 8.5: SP 5.5: P 3: RC 1.2: D 1.9. Refers to A. M. Danzill, M. A. Hammond, J. C. Moses, J. R. Smith, F. S. Wells, A. Weymouth.

675 (1) SVENSSON, VIKTOR, 149 St. Marks Ave., Brooklyn, N. Y. (Age 28. Born Erska, Sweden.) 1919 C. E., Chalmers' Tech. Inst. July 1919-Aug. 1921 Draftsman on design of hydraulic power plants, Sept. 1921-April 1922 Supervisor on construction of locks and canals, and May 1922 to May 1923, Designer of hydraulic power plants, Royal Board of Waterfalls, Stockholm, Sweden. TT 5.9: SP 2: P 3.9: RC 0.7. July to Oct. 1923 Draftsman with Robinson & Steinman, Cons. Engrs., New York City, in connection with design of a bridge project. TT 0.3: P 0.3. Oct. 1923 to March 1924 Designer of hydraulic and steam power plants, Southern Power Co., Charlotte, N. C. TT 0.4: P 0.4. April to May 1924 Draftsman and Computer with Roger M. Freeman, Constr. Engr., New York City, on design of hydraulic power plant. TT 0.1: P 0.1. TT 6.7: SP 2: P 4.7: RC 0.7. Refers to R. M. Freeman, W. E. Joyce, H. D. Robinson, D. B. Steinman, G. B. Woodruff.

676 (13) SWAFFORD, PAUL ALBON, Univ. of California, Berkeley, Cal. (Age 35. Born Cincinnati, Ohio.) 1915 B. S., Coll. of C. E., Univ. of Cal. July 1915 to Nov. 1916 Asst. Engr., Byron-Bethany Irrigation Co., Byron, Cal., on design and construction of irrigation system, including pumping stations, canals, pipe-lines and appurtenant works, responsible charge of location, design and construction. TT 3.3: SP 2: P 1.3: RC 1.3: D 1.3. July 1917 to Dec. 1919 Instructor in Civ. Eng., Dept. of Civ. Eng., Univ. of California. June to Sept. 1918 Field Engr., Spring Valley Water Co., on investigations into causes of failure of Calaveras Dam; Asst. Engr. on tunnel construction. TT 2.5: P 2.5. 1920 Office Engr., Filtration Div., City of Sacramento, Cal., in charge of drafting during design period on water-works, design and investigations for various structures. TT 1: P 1: RC 1: D 1. Jan. to June 1921 Instructor in Science, Cogswell Coll., San Francisco, Cal. TT 0.5 P 0.5. July 1921 to date Instructor in Civ. Eng., Dept. of Civ. Eng., Univ. of California. Since July 1923 also Structural Engr., Alameda County, at Oakland, Cal., on design of sewer systems and sewage-disposal plants, reinforced concrete and timber bridges, design of parts of and appurtenant works for Estuary Subway between Oakland and Alameda. Dec. 1923 to Jan. 1924 also Inspector, Carquinez Straits Bridge, Crockett, Cal., supervision of casting of reinforced concrete piles for piers of this bridge. TT 2.8: P 2.8. TT 10.1: SP 2: P 8.1: RC 3.2: D 3.1. Refers to C. Derleth, Jr., A. W. Earl, B. A. Etcheverry, F. S. Foote, C. G. Gillespie, C. G. Hyde, G. A. Posey.

677 (4) THOMAS, WESLEY CARROLL, 617 Lees Ave., Collingswood, N. J. (Age 25. Born Camden, N. J.) 1923 B. S. in C. E., Drexel Inst. June to Sept. 1920 Asst. to Foreman, Sam'l M. Langston Co., Small Lathe Dept., keeping cost data, etc. TT 0.3: SP 0.3. Jan.-March 1922 (co-operative work while at school) Appraiser, M. E. Cooley Eng. Co., on Public Service Gas Co.'s properties in New Jersey. TT 0.2: SP 0.2. June to Sept. 1922 Carpenter, 2d Class, Interurban Realty Co. TT 0.2: SP 0.2. March 1918 to Aug. 1919 Quartermaster, 2d Class, U. S. Navy; Signal Quartermaster on transport duty overseas. TT 1.4: SP 1.4. June 1923 to date Asst. to Div. Engr., Public Service Ry. Co., N. J., charge of party, design of special work and curves. TT 1: P 1: RC 0.3: D 0.7. TT 3: SP 2: P 1: RC 0.3: D 0.7. Refers to A. B. DePuy, W. Easby, Jr., H. H. George, M. D. Kolyn, J. C. Remington, Jr.

678 (1) TOWNSEND, FRANK MARTIN, Tepic, Nayarit, Mexico. (Age 34. Born Mechanicsville, N. Y.) July 1907 to Jan. 1908 Asst. on Engr. Corps, Hudson Valley Constr. Co., Troy, N. Y., driving stakes, Rodman, chaining, timekeeping. TT 0.5. June 1909 to Feb. 1910 Chainman, Oct. to Nov. 1916 Transitman, and Jan. to Feb. 1917 Instrumentman, Atchison, Topeka & Santa Fe R. R. TT 0.9. March to June 1910 Chainman, Northern Pacific Ry. TT 0.2. June to Oct. 1910 Rodman, Oregon Short Line R. R. TT 0.3. Oct. to Dec. 1910 Rodman, and Feb. to April 1911 Chainman, Oregon Trunk Ry. TT 0.3. Dec. 1910 to Feb. 1911 Rodman, Mexico Northwestern Ry. TT 0.2. May to Aug. 1911 Fuel Inspector, Testing Dept., and Jan. to Feb. 1912 Chainman, Chicago, Rock Island & Pacific R. R. TT 0.3. Sept. to Dec. 1911 Instrumentman, and Feb. to April 1912 Res. Engr. in charge of 8 miles light construction, Canadian Northern Ry. TT 0.4: RC 0.2. May to Aug. 1912 Timekeeper, A. Guthrie & Co., Vancouver, B. C., on steam shovel work. TT 0.2. Aug. to Nov. 1912 Acting Res. Engr., Oregon Elec. Ry., Eugene, Ore., in charge of 24 miles of construction. TT 0.2: RC 0.2. Nov. 1912 to March 1913 Chainman and Leveler,

Oct. 1913 to Jan. 1914 Rodman and Concrete Inspector, tunnel lining, bridge substructure, maintenance of way engineering, April 1914 to Jan. 1915 Inspector, foundations, etc., Feb. to Aug. 1915 Concrete Inspector, Bridge Dept., inspection of pipe, slab and pile fabrication, and April to Oct. 1916 in charge of construction, at Willmor, of 12-stall engine house, water tank, cinder pit, pipe-line, all for Great Northern Ry. *TT 2.3: RC 0.5.* March to April 1913 Rodman, Southern Pacific Co., Portland, Ore. *TT 0.1.* April to June 1913 Levelman, J. G. White & Co., San Francisco, Cal., surveys, etc. *TT 0.2.* June to Sept. 1913 in charge of party, San Joaquin Light & Power Co., power plant construction, 9 tunnels, 2 dams, and $3\frac{1}{2}$ miles of conduit. *TT 0.2: RC 0.2.* Feb. to April 1914 Leveler, St. Paul Southern Elec. R. R. *TT 0.2.* Jan. to Feb. 1915 Chairman, St. Paul Union Depot Co. *TT 0.1.* Aug. 1915 to March 1916 and Nov. 1916 to Jan. 1917 Computer, Chicago, Milwaukee & St. Paul Ry. *TT 0.8.* March to April 1916 Instrumentman, Chicago & North Western Ry. *TT 0.1.* Feb. to April 1917 Asst. Engr., Mid Co. Petroleum Co., Tulsa, surveys, etc. *TT 0.2: RC 0.2.* April to Sept. 1917 Asst. Engr., Union Pacific R. R., Denver, in charge of section of bank widening and ballasting. *TT 0.4: RC 0.4.* Nov. 1917 to April 1918 Transitman, Southern Ry. *TT 0.4.* April to May 1918 Instrumentman, May to June 1918 Asst. Engr. in charge of maintenance-of-way engineering on a district, Dec. 1918 to March 1919 Transitman, March to April 1919 Asst. Engr. M. of W., Western Div., in charge of a district, all for U. P. R. R. *TT 0.5: RC 0.2.* April to July 1919 Instrumentman (1 month) and Asst. Engr. in charge of a district, maintenance (2 months), O. S. L. R. R. *TT 0.3: RC 0.2.* Aug. to Sept. 1919 Concrete Inspector, Pacific Gas & Elec. Co., heavy dam construction, Lake Spaulding, Cal. *TT 0.1.* Oct. 1919 to March 1920 Asst. Engr., U. P. R. R., maintenance of way, Cheyenne-Rawlins, in charge of a district. *TT 0.4: RC 0.4.* April to June 1920 Transitman, C., M. & St. P. Ry. track elevation, North Side, Chicago, Ill. *TT 0.2: RC 0.2.* June to Nov. 1920 Transitman, U. P. R. R. *TT 0.4.* Dec. 1920 to Feb. 1921 and July 1921 to Sept. 1922 Asst. Engr., Missouri, Kansas & Texas R. R., maintenance, in charge of party. *TT 1.3: RC 1.3.* Feb. to April 1921 Asst. Engr., S. P. Ry., El Paso, maintenance of way, Engr.-Acct. *TT 0.2: RC 0.2.* April to July 1921 Tunnel Inspector, Pacific Gas & Elec. Co., Pit River Hydro-Electric Project. *TT 0.3.* Sept. 1922 to Feb. 1923 Jun. Engr., New York Central Lines, on construction, Selkirk Yards, inspection and in charge of party laying out work. *TT 0.4.* Feb. to May 1923 Transitman, and May to July 1923 Res. Engr., at Sheridan, Wyo., in charge of 15-mile residency, Wyo., No. & S. R. R. *TT 0.4: RC 0.2.* July 1923 to date Res. Engr., S. P. R. R. of Mexico, Tepe, La Quemoda Line, has charge of report direct to Chf. Engr. on 14-km. of heavy construction. *TT 0.7: RC 0.7.* *TT 13.7: RC 5.* Refers to H. L. Clarke, E. B. Crane, D. A. Daly, C. A. Hopkins, G. T. Kuntz, E. Newman, N. C. Woody.

679 (5) TYRRELL, HENRY GRATTAN, 828 N. Carrollton Ave., Baltimore, Md. (Age 56. Born Weston, Ont., Canada.) 1894 C. E., Univ. of Toronto. 1886 to 1888 Instrumentman, Canadian Pacific Ry. Co. *TT 4: SP 4.* 1889-1903 Office Engr. (9 years) and Estimator (5 years), Branches of American Bridge Co. *TT 14: SP 2: P 12: RC 8: D 4.* 1904 to 1906 Chf. Engr., F. M. Andrews Co., Archts., Cincinnati, Ohio. *TT 2: P 2: RC 2: D 2.* 1906 to 1908 Structural Engr., Harriman Ry. in Pacific States, at Salt Lake City and Los Angeles. *TT 2: P 2: RC 2: D 2.* 1909 to 1915 Cons. Engr. and Author, Chicago, wrote and published eight volumes on structural engineering, giving much time to special investigations and research relative to design and construction of bridges and other structures; 1913 reported on cost of crossing Irish Channel to Scotland by means of bridge or tunnel; connected with design and construction of many notable bridges and other structures; inventor of automatic drawbridge gates, and regulating gates for canals and waterways; originator of formulae for weight and cost of bridges; 1905 reported on collapse of suspension bridge at Charleston, W. Va., and prepared alternate plans for replacing it with suspension or cantilever; made several designs for crossing Salmon River gorge in Idaho (one with 850-ft. steel arch, deck 450 ft. above water); 1907 (after flood destroyed railroad in Nevada) examined bridges destroyed and injured on roads and submitted report on renewing them; connected with design and construction of great variety of other structures, such as elevated railroads, water towers, standpipes, ore-handling machinery, culverts, trestles, viaducts, storage pockets, dams, railroads, terminals, etc., including 14 or more buildings 12 to 20 stories high and framing and foundations for many others, such as State Capitol at Frankfort, Ky. (cost about \$3 000 000); designed bridges costing about \$30 000 000 and supervised construction of bridges costing about \$10 000 000; designed many structures for foreign countries, etc. *TT 6: P 6.* 1915 to 1918 and 1919 to 1922 Managing Proprietor, Tyrrell Eng. Co., first 3 years at Chicago and Detroit, and last 2 years at New York City and Norfolk, Va. *TT 6: P 6: RC 5: D 5.* 1918 to 1919 with U. S. Govt. war service, New York City, Little Rock and Washington. *TT 2: P 2: RC 2: D 2.* 1923 to 1924 Vice-Pres.

and Chf. Engr., Imbach-Wozny-McCoy, Inc., Contrs. and Engrs., Baltimore, Md. TT 1: P 1: RC 1: D 1. TT 37: SP 6: P 3: RC 20: D 16. Refers to G. H. Duggan, C. E. Fowler, G. Lindenthal, F. W. Skinner, D. B. Steinman, T. K. Thomson, J. C. Trautwine, Jr., J. A. L. Waddell.

680 (1) VALLE, JUAN AGUSTIN, Tacuari 1720, Buenos Aires, Argentine Republic. (Age 34. Born La Plata, Argentine Republic.) 1913 C. E., Univ. of Buenos Aires. 1913 to date with Ministry of Public Works, Buenos Aires, Argentine Republic, 1 year as Engr. of Public Works, Dept. of Bridges and Roads; 5 years Engr. in charge of studies of canalization of Riachuelo River; 3 years Adjunct Engr.; last 2 years Second Chf. Engr., Northern Zone, Dept. of Public Works. 1924 Delegate from Argentine Republic to Pan-American Highway Comm. TT 13: SP 2: P 11: RC 10. Refers to A. H. Blanchard, R. F. A. Muller, F. T. Sheets, C. M. Upham. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

681 (11) WARD, ROLAND FAY, Redondo Beach, Cal. (Age 23. Born Chaseburg, Wis.) June to Nov. 1922 Chainman, Rodman, Recorder and Computer, Palos Verdes Estates. TT 0.4: SP 0.4. Nov. 1922 to March 1923 Chainman, Southern California Edison Co., Los Angeles, Cal. TT 0.3: SP 0.3. March 1923 to date Levelman and Transitman, Palos Verdes Estates. TT 1.3: SP 1.3. TT 2: SP 2. Refers to R. E. Brownell, H. T. Cory, M. D. Glessner, L. Hussey, F. L. Sellow, R. B. Worthy.

682 (9) WARD, WILLIAM BERNARD, 34 West 6th St., Cincinnati, Ohio. (Age 33. Born Cincinnati, Ohio.) July 1906 to Aug. 1912 Architectural Draftsman, S. Hannaford & Sons, Archts. TT 6.1. Aug. 1912 to June 1915 Architectural Draftsman and Engr. with Krucker & Deckbar, Archts., drafting and structural engineering. TT 2.8: RC 1: D 1. July to Oct. 1915 Architectural Draftsman with Garber & Woodward, Archts. TT 0.2: RC 0.2: D 0.2. Oct. 1915 to June 1918 Structural Engr. with Tietig & Lee, Archts., Designer for all work. TT 2.7: RC 2.7: D 2.7. June 1918 to July 1919 with A. E. F. in France as Master Engr., Headquarters Detachment, 309th Engrs., 84th Div., had charge of building base hospitals and of rebuilding French roads. TT 1.1: RC 0.7: D 0.7. July 1919 to May 1922 and Dec. 1922 to May 1924 Structural Engr. with Tietig & Lee, Archts., Designer for all work, Head of superintendents. TT 4.2: RC 4.2: D 4.2. TT 17.2: RC 8.9: D 8.9. Refers to W. P. Anderson, E. C. Harding, Jr., H. D. Loring, F. W. Morrill, R. R. Panzer.

683 (1) WEAVER, CHARLES RAYMOND, 38 Gramercy Park, New York City. (Age 58. Born Baltimore, Md.) 3 years student, Maryland Inst. of Art. and Design. 1887 to 1891 Asst. Engr., Baltimore City, designing and building storm water sewers; Draftsman and assisting in office and field work. TT 5: P 5: RC 2: D 3. 1892 and 1893 Asst. to Chf. Engr., Baltimore Traction Co., remodeling power houses and plants, designing and in responsible charge of construction. TT 2: P 2: RC 1: D 1. 1894 to 1895 not on engineering work. 1896 to 1906 Jun. Engr., Engr. Corps, U. S. Army, Southeast Div.; Asst. to Gen. Peter C. Hains, in responsible charge of designing and building at Fts. Armstead and Smallwood, and remodeling at Ft. Carroll, government inspection of bridges, dredging and military coast defense. TT 11: P 11: RC 8: D 3. 1907 to 1917 in partnership with Gen. Peter C. Hains as Advising and Cons. Engrs. and Joint Inventors, Washington, D. C. TT 11: P 11: RC 9: D 2. 1918 to 1921 associated with Rodgers & Hagerty, Gen. Contrs., New York City, principally on new business. TT 4: P 4: RC 4. 1922 to 1923 Engr., Empire State Dredging Co. and its affiliated companies, managing and soliciting business in New York City Dist. TT 2: P 2: RC 2. TT 35: P 35: RC 26: D 9. Refers to F. W. Allen, R. K. Compton, J. S. Doyle, W. D. Lockwood, W. A. Starrett, H. A. Van Alstyne, J. C. Wait.

684 (1) WEISS, THEODORE FRANCIS, 1078 Longfellow Ave., Bronx, New York City. (Age 26. Born New York City.) 1921 B. S., Coll. of City of N. Y. 1924 C. E., Pol. Inst. of Brooklyn. Jan. to Dec. 1920 Asst. Engr. and Asst. Supt., Rangeley Constr. Co., at Air Coast Defense Station, New Dorp, N. Y. TT 3: SP 2.5: P 0.5: RC 0.5. Refers to H. P. Hammond, C. W. Hudson, F. O. X. McLoughlin, E. J. Squire, D. B. Steinman.

685 (8) WELSH, JOHN ROBERT, 103 E. Healey St., Champaign, Ill. (Age 23. Born Peoria, Ill.) 1924 B. S. in C. E., Univ. of Ill. June to Sept. 1920 Instrumentman, and Sept. 1920 to Sept. 1921, April to Sept. 1922 and June to Sept. 1923 Res. Engr. on supervision of construction, Michigan State Highway Dept. TT 3.3: SP 3.3. Refers to H. Cross, M. L. Enger, M. S. Ketchum, C. A. Petry, J. Vawter, C. C. Wiley, C. C. Williams.

686 (13) WHITTON, CHARLES ABEL, 1801 Oakland Bank Bldg., Oakland, Cal. (Age 38. Born Oakland, Cal.) 1910 B. S., Coll. of Civ. Eng., Univ. of Cal. 1905 to 1906 Chainman to Instrumentman on various railroad and other surveys. TT 3.1: SP 3.1. 1910 Asst.

Instructor in Surveying, Univ. of California Summer School, 1910 to 1911 Graduate Fellow in Structural Eng., Univ. of California. TT 1: P 1. 1911 with M. of W. Dept., Southern Pacific R. R., San Francisco. TT 0.3: SP 0.3. 1911 to 1913 Timekeeper, Estimator and Supt. of Constr., Roebling Constr. Co., San Francisco. TT 2: SP 1: P 1: RC 1. 1913 to 1917 Estimator, Office Mgr. and Mgr., and in charge of \$2 000 000 worth of contracts, Sound Constr. & Eng. Co., San Francisco. TT 4.3: SP 1.3: P 3: RC 3: D 2. 1917 to 1919 Lieut. and Capt. in Air Service, U. S. Army. 1919 to 1922 with J. S. Sampson Co., in charge of construction (over \$1 250 000) in Utah, Idaho and California. TT 3.5: P 3.5: RC 3.5: D 2. 1922 to 1924 with Reed & Corlett, Archts. and Engrs., Oakland, Cal., in charge of construction, Structural Engr., and specifications. TT 1.5: P 1.5: RC 1.5: D 1.5. TT 15.7: SP 5.7: P 10: RC 9: D 5.5. Refers to T. F. Chace, W. G. Corlett, M. C. Couchot, C. Derleth, Jr., H. D. Dewell, A. J. Eddy, C. H. Snyder.

687 (7) WILEY, JAMES HAROLD, Bismarck, N. Dak. (Age 24. Born Steele, N. Dak.) 1923 B. S. in C. E., Univ. of N. Dak. Aug.-Nov. 1923 Draftsman, North Dakota State Highway Comm. TT 2.3: SP 2.3. Dec. 1923 to date Asst. Engr., Dept. of Eng., North Dakota Board of R. R. Comms. TT 0.4: SP 0.4. TT 2.7: SP 2.7. Refers to W. G. Black, E. F. Chandler, E. R. Griffin, G. E. Hanson, E. H. Morris.

688 (3) WILKIN, INCREASE CROSBY JORDAN, R. D. No. 2, Gardiner, N. Y. (Age 23. Born Newburgh, N. Y.) 1924 C. E., Rens. Pol. Inst. June to Aug. 1923 Jun. Asst. Engr., New York State Dept. of Highways; Inspector on concrete road. TT 2: SP 2. Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, W. W. Rousseau.

689 (1) ZELIFF, DAVID WILLIAM, Arlington, N. J. (Age 41. Born Newark, N. J.) March 1900 to June 1901 Rodman, Instrumentman and Draftsman for William S. Logan, Town Engr., Kearny, N. J., municipal engineering and private surveying. TT 1.2: SP 1.2. June 1901 to Oct. 1902 Instrumentman and Draftsman, grade crossing elimination, surveying and construction, Delaware, Lackawanna & Western R. R. Co., at Newark, N. J. TT 1.3: SP 1.3. Oct. 1902 to March 1903 Instrumentman and Draftsman for E. R. Halsey, Town Engr. of South Orange and Irvington, N. J., municipal engineering and private surveying. TT 0.5: SP 0.5. March 1903 to Nov. 1905 Instrumentman and Draftsman for C. C. Haven, City Engr., Trenton, N. J., municipal engineering and private surveying. TT 2.7: SP 0.7: P 2. Nov. 1905 to Nov. 1917 Draftsman, design and Asst. in Div. Engr.'s office, D. L. & W. R. R., Hoboken, N. J., maintenance, grade-crossing elimination, construction and track work at South Orange, Madison, Bloomfield, etc. TT 12: P 12. Nov. 1917 to Dec. 1918 drafting, design of track and Asst. Engr., R. R. Div., Submarine Boat Corporation, Newark Bay Shipyard. TT 1.1: P 1.1. Dec. 1918 to date Senior Asst. Engr. on relocation of highways and railroad, account of construction of Wanaque Reservoir for North Jersey Dist. Water Supply Comm. TT 5.4: P 5.4: RC 2. TT 24.2: SP 3.7: P 20.5: RC 2. Refers to W. H. Boardman, A. B. Cohen, S. Gordon, A. C. Gregory, W. H. Hoff, A. H. Pratt, A. L. Sherman.

FOR TRANSFER

FROM THE GRADE OF ASSOCIATE MEMBER

690 (1) ASH, WILLIAM JOHN, Assoc. M., 294 North 4th St., Newark, N. J. (Elected Nov. 25, 1919.) (Age 40. Born New York City.) Licensed Prof. Engr., New York State. 1909 B. S., and 1913 C. E., Cooper Union. Nov. 1905 to Feb. 1907 with New York Central R. R., at Yonkers, N. Y., as Rodman and Instrumentman, also Inspector of construction, laying out and inspecting heavy railroad and terminal improvements, making surveys, etc., occasionally in charge of field party. TT 3.3: SP 2.8: P 0.5. Feb. 1907 to Aug. 1914 with Bureau of Eng., New Brighton, N. Y., until 1909 as Draftsman and Designer; then Asst. Chf. Draftsman, Constr. Div., on design and supervision of various municipal improvements, sewers, highways, bridges, grade-crossing elimination, etc. TT 7.5: SP 0.5: P 7: RC 4: D 6. Aug. 1914 to Nov. 1917 with Public Service Comm., 1st Dist., New York City, as Asst. Engr. investigating and passing underpinning designs, in charge of engineering party laying out work; from summer 1915 in charge as Asst. to Sec. Engr. of field and office work, preparation of estimates, etc. TT 3.2: P 3.2: RC 3: D 0.5. Nov. 1917 to Dec. 1918 with Air Nitrates Corporation, New York City, first as Squad Leader in charge of steel and concrete work (except buildings) on U. S. Nitrate Plant No. 2 at Muscle Shoals, Ala.; after July 1918 Asst. Engr. of Designs directing all design on U. S. Nitrate Plants 3 and 4, both structural and mechanical; supervision of draftsmen and designers. TT 1.1: P 1.1: RC 1.1: D 1.1. Dec. 1918 to Dec. 1919 with American Cyanamid Co., New York City, as Civ. and

Mech. Engr., directing design of buildings and mechanical layouts, writing specifications, on general industrial plant construction and alteration. *TT 1: P 1: RC 1: D 0.7.* Dec. 1919 to May 1920 with Central Dyestuff & Chemical Co., Newark, N. J., as Designing Engr. in charge of design of brick, steel and timber building alterations, installation of chemical plant equipment, power transmission, etc., also supervising construction. *TT 0.4: P 0.4: RC 0.4: D 0.4.* May 1920 to Aug. 1921 with American Cyanamid Co., in charge of design of steel, concrete and timber buildings, chemical plant equipment, specification writing, inspection and general administrative work, also advising on construction and construction methods. *TT 1.2: P 1.2: RC 1.2: D 1.* Aug. 1921 to Oct. 1922 with M. Shapiro & Son, New York City, as Civ. and Structural Engr., designing steel building frames, especially theatres, difficult foundations, etc., also in charge, as Supt., on reservoir construction at Liberty, N. Y., for Workmen's Circle Sanatorium. *TT 1.2: P 1.2: RC 0.2: D 1.* Oct. 1922 to date with American Cyanamid Co., as Engr. in charge of design, all classes of industrial buildings and chemical plant equipment and structures for manufacture of company's products, drawing up specifications, selecting equipment, scheming alterations and additions, supervision and scheduling construction, also advising and direction of construction methods (work involves about \$1 000 000 expenditure annually); 1923 also acted as Cons. Engr. for Warner Chemical Co., Carteret, N. J., on unusual shoring and strengthening of building. *TT 1.5: P 1.5: RC 1.5: D 1.5.* *TT 20.5: SP 3.3: P 17.2: RC 12.4: D 12.2.* Refers to F. C. Boes, H. H. Bubar, C. D. Collins, R. D. Greene, J. H. Madden, T. S. Oxholm, R. H. Vanderbrook, I. Weed, H. R. Wickham.

691 (11) BAILHACHE, JOHN GOODIN, Assoc. M., 1015 N. 2d St., Phoenix, Ariz. (Elected Junior March 4, 1914; Assoc. M. Oct. 14, 1919.) (Age 32. Born San Diego, Cal.) 3½ years student, Cogswell Polytechnical Coll., San Francisco, Cal. June to Sept. 1911 Timekeeper and Sub-foreman, Moore & Scott Shipbuilding Co., Oakland, Cal. Sept. 1911 to 1912 Pump Engr. and Asst. Supt., Duck Bar Gravel Mine, partial construction of wing dam and excavation. April to Nov. 1912 Supt. in complete charge of Duck Bar Mine, including completing dam, moving in machinery, erecting camp buildings and derricks, excavation, etc. *TT 1.2: SP 1.2.* Nov. 1912 to Nov. 1913 Asst. Engr. with J. H. Dockweiler on reports and valuations. *TT 1: SP 0.2: P 0.8: RC 0.8.* Nov. 1913 to Feb. 1914 Asst. Engr. with Herrmann & Elliott on valuation. *TT 0.2: P 0.2: RC 0.2.* March 1914 to Oct. 1916 Asst. Engr., Valuation Dept., City of San Francisco, estimate of pipe-lines, relative costs of water systems; First Asst. Engr. for Valuation Dept. during Spring Valley Water Co. litigation (\$40 000 000), in charge under Valuation Engr. of gathering and compiling data, making maps, design and cost estimate of 9 300 acres substitutional irrigation system, etc. *TT 2.6: SP 0.6: P 2: RC 2: D 0.2.* Nov. to Dec. 1916 Chf. of Party on location of drainage ditches, Tracy, Cal. *TT 0.2: P 0.2: RC 0.2.* Jan. to Feb. 1917 Transimman and Inspector of ore, underground, Ray (Ariz.) Consolidated Copper Co. *TT 0.2: SP 0.2.* Feb. to June 1917 Res. Engr. on \$35 000 concrete street improvement and in charge of field parties on surveys and land levelling for City Engr., Blythe, Cal. *TT 0.4: P 0.4: RC 0.4.* Aug. to Sept. 1917 Asst. Engr., Valuation Dept., City of San Francisco. *TT 0.1: P 0.1: RC 0.1.* Sept. 1917 to Feb. 1918 2d Lieut., Engrs., U. S. Army Reserve. *TT 0.5: SP 0.5.* March to Oct. 1918 Res. Engr. for Hill & Ferguson, Cons. Engrs., New York City, on construction of Elizabeth (N. J.) Mechanical Concrete Filter Station and Pumping Plant (\$100 000). *TT 0.7: P 0.7: RC 0.7.* Sept. to Dec. 1918 with U. S. Army. May to Aug. 1919 Asst. Engr., Moore Shipbuilding Co., on construction of 10 000-ton floating dry dock and two 5 000-ton marine ways. *TT 0.3: P 0.3: RC 0.3.* Aug. to Oct. 1919 in private practice at Sacramento, on irrigation surveys, etc. *TT 0.2: P 0.2.* Oct. 1919 to Jan. 1920 with R. W. Waterman, in charge of four survey parties, irrigation work, mapping, street improvement work and Supt. on land levelling contracts, etc. *TT 0.4: P 0.4: RC 0.4.* Jan. to June 1920 with Wiley Giffon, Fresno, Cal., as Supt. and Res. Engr. in charge of 3 400-acre Tipton Irrigation Development, installation of 48 pumps, 1 000 acres of land levelling, ditches, subdivision and maps. *TT 0.6: P 0.6: RC 0.6.* July 1920 to Oct. 1922 Chf. Hydrographer, Salt River Valley Water Users Association, Phoenix, Ariz., Roosevelt Project, in charge of all ratings for measurement of water (installation of gate-rating system), seepage tests, timing of water travel, design of automatic spillways, recording weirs, Venturi meters, etc., and nearly 1½ months on power report. *TT 2.2: P 2.2: RC 2.2: D 0.5.* Oct. 1922 to March 1923 Designing Engr. for J. B. Girard, Cons. Engr., Phoenix, on \$500 000 reinforced concrete diversion dam. *TT 0.4: P 0.4: RC 0.4: D 0.4.* June 1923 to date Chf. Engr., Verde River Irrigation and Power Dist., Phoenix, proposed \$23 000 000 development, complete report on district, including water and power analysis for 100 000 acres and 82 000 hydro-electric h. p. cost estimate, plans, design of dams, flumes, power plants, etc. *TT 1: P 1: RC 1: D 0.5.* During last 3 years also on private work; expert witness in several water cases; report on Agua Fria Dia-

trict, water and power analysis (40 000 acres, 11 000 h. p.) TT 0.2: P 0.2: RC 0.2. TT 12.4: SP 2.1: P 10.3: RC 10.1: D 1.6. Refers to J. H. Dockweiler, N. R. Ellis, J. B. Girard, T. Maddock, R. Moody, D. W. Murphy, M. M. O'Shaughnessy.

692 (12) BRIGHAM, LESLIE ELIJAH, Assoc. M., 304 Kings Road, Corvallis, Ore. (Elected Dec. 4, 1922.) (Age 35. Born Trinidad, Colo.) Registered Civil and Hydraulic Engr., Oregon State Board of Eng. Examiners. 1913 B. S. in Civ. and Irrig. Eng., Colo. Agri. Coll. 1908 Rodman, Colorado Fuel & Iron Co., Trinidad, Colo.; 1909 Draftsman, Trinidad Elec. R. R., Light & Power Co., power-house construction, design of electric locomotive details; 1911 Rodman, Medina Irrigation Co., Castroville, Tex. TT 2.7: SP 2.7. June 1913 to Jan. 1914 Canal Rider, U. S. Reclamation Service, Shoshone Project, Powell, Wyo., in charge of water distribution of Frannie Canal System, also regulation of headworks and diversion dam. TT 0.6: P 0.6: RC 0.6. 1914 to 1918 Supervisor, Manual Training and Drawing, Rock Ford, Colo. (1914-1916), Supervisor, Agri. and Wood-Working Dept., Fallon (Nev.) High School (1916-1917), and Nevada State Director for Vocational Education, teaching and supervising mechanical drawing. June to Aug. 1915 Engr. in charge of layout and location of \$90 000 central heating plant tunnel system, Colorado Agricultural Coll. June to Aug. 1917 Engr., U. S. Reclamation Service, Truckee-Carson Project, Fallon, Nev., on office records and statistics for seepage areas. Sept. to Nov. 1917 Contr. Engr. for topographical survey and soil investigation, Federal Bldg. site, Fallon, for U. S. Superv. Archt., Washington, D. C. TT 1.8: SP 0.3: P 1.5: RC 1.5: D 0.3. Nov. 1918 to Dec. 1919 Res. Engr., Astoria (Ore.) Marine Iron Works, in charge of alignment of line shafts and engine beds in emergency fleet vessels, of platting Astoria Marine Iron Works additions and of subaqueous survey, layout, quay design, and construction for marine railway dry dock (\$350 000, 5 000 tons). TT 1.2: P 1.2: RC 1.2: D 1. Jan. to March 1920 in private practice of engineering at Astoria, on topographical surveys, town layouts and plats. TT 0.2: P 0.2: RC 0.2: D 0.2. March to June 1920 Appraisal Engr. on valuation of Astoria Pacific Power & Light Co.'s properties, listing complete quantities and equipment, Astoria and Seaside Power Plants, also Astoria Gas Plant and distribution system. TT 0.2: P 0.2: RC 0.2. June to July 1920 Engr., Oregon State Highway Dept., assisted in examination of site, layout and preliminary plans for proposed \$5 000 000 Burnside St. Bridge, Portland. TT 0.1: P 0.1: D 0.1. Sept. 1920 to date with Oregon Agricultural Coll., until June 1923 as Instructor in C. E. Dept. in charge of courses in surveying and hydraulics, part of time also of sewer design, sewage disposal and hydraulic power plants, and since Sept. 1923 Asst. Prof. of Hydraulics and Irrigation Eng., in charge of courses in hydraulics, hydraulic machinery and hydraulic power plants. Dec. 1921 to Dec. 1922 assisted in design and construction of new hydraulic laboratory at the College. June to Oct. 1922 in private practice of engineering at Astoria, platting and sub-division of 170 acres into city property, extensive maps. July to Aug. 1923 inspection trip of hydro-electric and irrigation projects in western states. TT 3.7: P 3.7: RC 3.6: D 1.2. TT 10.9: SP 3: P 7.9: RC 7.3: D 3. Refers to J. Dubuis, F. P. Goeder, R. A. Klein, C. B. McCullough, G. T. McClean, M. W. Rosecrans.

693 (12) BROWN, FRED MELVIN, Assoc. M., 822 Third Ave. S., Bozeman, Mont. (Elected May 31, 1916.) (Age 42. Born Bozeman, Mont.) 1889 to 1902 student in Civ. Eng. at Montana State Coll. (1½ years) and at Univ. of California (9 months). 1902 to 1903 Office Asst. with Samuel Fortier, Director, Montana Experiment Station, computing data for bulletins, etc. TT 1.4: SP 0.7. 1903 gauged streams for State Hydrographer (4 months) and Plane Table Asst. and Draftsman, U. S. Reclamation Service, on Milk River (6 months). TT 0.8: P 0.8. 1904 to 1905 topographical survey of Sun River Valley. TT 0.5: P 0.5. 1906 to 1908 with U. S. Reclamation Service, in 1906 appointed Asst. Engr. TT 2: P 2: RC 1.7: D 0.3. 1909 to 1921 County Engr. for Gallatin County, Mont., on design, construction of highways, bridges and culverts, also keeping records. TT 12: P 12: RC 12: D 4. 1921 to 1924 in private practice as Civ. Engr. at Bozeman; Engr. for Valley View Irrigation Dist. (about 2 000 acres, water pumped from Jefferson River by electric power); Engr. for South Bench Irrigation Dist. (15 000 acres, storage by 130-ft. dam), designed three dams (earth fill, rock fill and concrete); first 2½ miles of canal line in canyon, construction either tunnel or flume; 1913 to 1924 also Engr. for Town of Manhatta, sewer system, water extensions, walks, curbs, etc.; also Engr. for Town of Belgrade during installation of sewer system. TT 3: P 3: RC 3: D 1. 1924 to date Mgr. for City of Bozeman (manager has all powers except legislative), designs and supervises all engineering work. TT 0.4: P 0.4: RC 0.4: D 0.1. TT 20.1: SP 1.4: P 18.7: RC 17.1: D 5.4. Refers to J. T. Carmichael, L. D. Conkling, C. S. Heldel, E. U. Leh, W. R. Plew, R. D. Rader, R. S. Stockton.

694 (1) BUZBY, ARTHUR DUDLEY, Assoc. M., 246 Bellevue Ave., Upper Montclair, N. J. (Elected Nov. 25, 1919.) (Age 35. Born Montreal, Que., Canada.) 1911 C. E., Valparaiso Univ. Took post-graduate course in Massachusetts Inst. of Technology. TT 2: SP 2. Aug. 1912 to Nov. 1913 Structural Draftsman with Post & McCord, New York City, detail, design and preparation of shop drawings for mill and tall office buildings, including wind bracing and foundations. TT 1.3: P 1.3: D 1.3. Nov. 1913 to Dec. 1915 Bridge Designer, Erie R. R. Co., New York City, railroad and highway bridges, including turntables, swing and lift bridges, and long-span railroad bridges; reinforced concrete arches and abutments. TT 2: P 2: RC 1: D 2. Dec. 1915 to April 1918 with Chile Exploration Co. and Braden Copper Co., New York City, successively as Structural Designer, Gen. Designer, 2d Asst. Designing Engr., and Prin. Asst. Designing Engr., design computations, estimates, and preparation of general design drawings and layouts of all types of structures for copper reduction plants, blast furnace plant, conveyor systems, ore bridges, crushing plants, etc.; review and supervision of structural and reinforced concrete design; preparation of special technical reports, also of formal contract specifications for more important parts of the work, such as long-span movable ore-handling bridges, aerial tramway (5 miles long), rotary kilns (10 by 150 ft.), etc., and supervision of design of such items; Representative of Designing Engr. in conferences with manufacturers furnishing equipment for \$20 000 000 plant; direct Representative of Designing Engr. in administrative affairs. TT 2.4: P 2.4: RC 1.4: D 2.4. April 1918 to Feb. 1919 Experimental Engr., Aviation Service, Signal Corps, U. S. Army, with French Aviation Mission to the United States, in direct charge of development, design and shop construction of part of U. S. airplane program. TT 0.8: P 0.8: RC 0.8: D 0.8. Feb. 1919 to Feb. 1920 Prin. Asst. Designing Engr., Chile Exploration Co. and Braden Copper Co., resuming design and executive work. TT 1: P 1: RC 1: D 1. Feb. 1920 to date Tech. Consultant, Gen. Eastern Office, Wellman-Seaver-Morgan Co., Engrs. and Mfrs., Cleveland, Ohio, Consultant to Cons, Engrs. and industrial plants on design, layout, selection and application of mechanical equipment for coal- and ore-handling plants, hydro-electric plants, steel works, rubber plants, ocean freight and cargo handling terminals, etc. TT 4.3: P 4.3: RC 4.3: D 4.3. TT 13.9: SP 2: P 11.9: RC 8.5: D 11.9. Refers to R. M. Freeman, C. W. Hudson, R. F. Roberts, W. Rowland, O. Singstad, M. W. Williams, S. B. Williamson.

695 (4) CHASE, CLEMENT EDWARDS, Assoc. M., 816 Widener Bldg., Philadelphia, Pa. (Elected Jun. Oct. 1, 1912; Assoc. M. April 19, 1920.) (Age 36. Born Omaha, Nebr.) 1910 C. E., Cornell Univ. June to Sept. 1907 Timekeeper, Wright Creek Dam, Cameron Pass, Colo. June to Sept. 1908 Concrete Inspector and Rodman, and July to Sept. 1909 and July to Dec. 1910 Steel Inspector on erection on bridge for Illinois Traction System. TT 2.5: D 0.2. Dec. 1910 to Oct. 1911 Asst. Engr., Oregon Trunk R. R., until May 1911 in immediate charge of field party supervising construction of substructures of bridges; then Inspector of erection, Crooked River Arch. TT 0.9: RC 0.9: D 0.2. Oct. 1911 to March 1913 Asst. Engr. on construction, Cherry St. Bridge over Maumee River at Toledo, Ohio. TT 1.4. March 1913 to March 1917 with Modjeski & Angier, until June 1913 as Field Inspector of bridges on Pennsylvania Lines West of Pittsburgh; then Chf. Inspector, Pittsburgh Office, inspecting Civ. Engrs. in charge of inspection of bridges for Northern Pacific Ry., Pennsylvania Lines, material for Memphis Bridge; report on engineering questions involved in raising Pittsburgh Bridges to Pennsylvania Lines; examination and report, trainshed, St. Louis Terminal Ry. TT 4: RC 3.8. March 1917 to Dec. 1918 Res. Engr., Poughkeepsie Bridge, Central New England Ry., remodeling (under traffic) to carry heavier engines. Jan. to Dec. 1918 also managed business of Frank M. Masters, Cons. Engr., supervision of mill, shop and field inspection, Louisville Bridge of Pennsylvania Lines West and of bridge at Rochester, Pa. TT 1.5: RC 1.5: D 0.5. Jan. 1919 to Sept. 1920 Asst. Engr. to Ralph Modjeski in charge New York office and in charge Pittsburgh and New York Dist. for Modjeski & Angier, review and check of design, Ohio River Bridge of Cincinnati & Southern Ry. (3-span continuous truss with lift span), Tanana River Bridge (700 ft. simple truss span). TT 1.8: RC 1.8: D 1. Sept. 1920 to date Prin. Asst. Engr., Delaware River Bridge Joint Comm., during preparation of preliminary report on location, design and cost of bridge over Delaware River, and in charge of preparation contracts and specifications; general supervision of design, mill and shop inspection, special research tests and investigations, co-ordination of design division, field division and architectural work (under Chf. Engr. and Board of Engrs.) TT 5.5: RC 3.5: D 3.5. TT 15.6: RC 11.5: D 5.4. Refers to L. A. Ball, J. C. Bland, T. Earle, H. Goldmark, C. G. E. Larsson, F. M. Masters, S. P. Mitchell, R. Modjeski, L. S. Moisseiff, D. E. Moran, G. S. Webster.

696 (1) CLOSSON, WILLIAM GIDEON, Assoc. M., 3335, 167th St., Flushing, N. Y. (Elected May 6, 1914.) (Age 44. Born Providence, N. Y.) 1900 to 1902 student, Civ. Eng. course, Union Univ., Schenectady, N. Y. Nov. 1902 to Jan. 1904 Transmittan, City Eng. Dept., Gloversville, N. Y., in charge of party on surveys and construction. TT 1.9: SP 1.9: Jan. 1904 to Feb. 1907 Asst. City Engr. in charge of all work under City Engr., such as grading, paving, etc.; investigations of water power, stream flow and pollution for damage suits; separation of sanitary from storm sewer systems; investigations, plans, specifications, location and construction of about 4 miles of trunk sewer (contract price \$130 780); location and purchase of site for disposal plant; studies of mill wastes treatment; experimental plant; investigations, studies, and preliminary plans for disposal plant (estimated cost \$200 000). TT 3.2: P 3.2: RC 3.2. Feb. 1907 to Jan. 1908 Draftsman, Headquarters Dept., Board of Water Supply, New York City, on contract plans of Catskill Aqueduct, Olive Bridge Dam and Ashokan Reservoir. TT 0.8: SP 0.8. Jan. 1908 to July 1912 Draftsman, Div. of Substructures, Borough President, Brooklyn, N. Y., investigating, recording and standardizing locations for all subsurface structures in the Borough thoroughfares to bring about more systematic and economic control. TT 4.5: SP 4.5. July 1912 to Oct. 1916 Asst. Engr., Div. of Substructures, Brooklyn, design and location of substructures disturbed by public improvements by cooperation with public-service corporations, city departments, etc.; studies of design of structures for stability under street loadings and economic use of space. TT 4.3: P 4.3: RC 2: D 2.3. Oct. 1916 to Jan. 1919 Prin. Asst. Engr. and Asst. Engr. in charge of Div. of Substructures, Brooklyn (the subsurface control of many public improvements, such as Classon Ave. Sewer and distribution system for Catskill water, estimated saving \$200 000, was handled by this division). TT 2.2: P 2.2: RC 2.2. Jan. 1919 to March 1923 Asst. Engr., Bureau of Sewers, Brooklyn, on design of drainage systems of magnitude, special structures, such as regulators, overflows, tanks, subway type rectangular sections of reinforced concrete, studies of runoff by various methods, rational, etc. TT 4.2: P 4.2: D 4.2. March 1923 to date Asst. Engr., Bureau of Sewers, Brooklyn, in charge of design of drainage systems for relief and extension of large areas (estimated cost of system draining 3 000 acres \$10 000 000); charge of contract plans for about 3 miles of main trunks of the system (158-in. to a 216-in. 3-barrel 9-ft. by 15-ft. section, outside dimensions 13 ft. high by 51 ft. wide; estimated cost \$3 000 000). TT 1.2: P 1.2: RC 1.2. TT 22.3: SP 7.2: P 15.1: RC 8.6: D 6.5. Refers to W. W. Brush, P. P. Farley, G. T. Hammond, J. C. Riedel, W. R. Tenney, A. W. Tidd.

697 (13) CORLETT, WILLIAM GREENFIELD, Assoc. M., 1801 Oakland Bank Bldg., Oakland, Cal. (Elected Junior Dec. 2, 1914; Assoc. M. May 31, 1916.) (Age 36. Born Napa, Cal.) 1911 granted license as Certified Archt. by California State Board of Architecture. 1910 B. S., Univ. of Cal. 1906 to 1910 (summers and spare time) Draftsman in offices of W. H. Corlett, Archt., Napa, and of Wm. C. Hays, Archt., San Francisco, Cal. TT 2: SP 2. 1910 to 1911 Draftsman in office of John Galen Howard, Archt., San Francisco, Univ. of California Bldgs. TT 0.8: SP 0.6: P 0.2: D 0.2. 1911 to 1912 Structural Engr. and Supt. in office of Frederick H. Meyer, Archt., San Francisco. TT 1.2: SP 0.2: P 1: RC 1: D 1. 1912 Engr. in office of J. J. Donovan, Archt., Oakland, Cal. TT 0.3: P 0.3: RC 0.3: D 0.3. 1912 to 1916 Chf. Draftsman and Engr. in full charge of office and superintendence, Walter D. Reed, Archt., Oakland, Cal., over two months in 1913 Asst. Engr. in office of M. C. Couchot, Civ. Engr., Fine Arts Bldg., Panama Pacific International Exposition. TT 3.1: P 3.1: RC 3.1: D 3.1. 1916 to 1924 member of firm, Reed & Corlett, Archts. and Engrs., Oakland. TT 8.2: P 8.2: RC 8.2: D 8.2. TT 15.8: SP 3: P 12.8: RC 12.6: D 13. Refers to M. C. Couchot, C. Derleth, Jr., E. H. Frisell, V. H. Poss, E. J. Schneider, C. H. Snyder, H. C. Vensano.

698 (1) EVERETT, CHESTER MCKENZIE, Assoc. M., 25 West 43d St., New York City. (Elected May 15, 1917.) (Age 41. Born Burke, N. Y.) 1906 B. S., Dartmouth Coll.; 1907 C. E., Thayer School of Civ. Eng. June to Sept. 1902 Asst. in charge of construction of small pipe sewers in town of Warner, N. H. TT 2.2: SP 2: P 0.2: RC 0.2. May to Sept. 1906 Supt. in charge of street paving construction in and about New York City. TT 0.4: P 0.4: RC 0.4. May 1907 to May 1910 Asst. Engr. in office of Hazen & Whipple, Cons. Engrs., on design of Springfield Water-Works, Yonkers, Peekskill, Toronto, and Brisbane Filters and many smaller works. TT 3: P 3. June to Oct. 1910 Engr. in charge of surveys and preliminary investigation for new water-works for Ottawa, Canada, under direction of Allen Hazen. TT 0.3: P 0.3. Oct. 1910 to date with Hazen, Whipple & Fuller, New York City, until Jan. 1915 as Chf. Draftsman in charge (under supervision of firm) of designs for water-works for Yonkers, Ogdensburg, Poughkeepsie, and Auburn, N. Y., Ottawa, Canada, Norfolk, Va., and others; since Jan. 1915 member of firm, in charge of preliminary plans for

water-works of St. Paul, Minn., valuation of Durham (N. C.) Water Co., surveys, maps and designs for complete sewerage system for Salisbury, Md., with preliminary plans for water-works, and many smaller undertakings; filtration plants at San Pablo, Cal., Poughkeepsie and Auburn, N. Y., Saginaw, Mich. (not built), Appalachia, Va., Albany, N. Y.; pumping stations at Poughkeepsie and New Britain, Conn., West Palm Beach, Fla., Salem-Beverly, Mass.; dosing station at Watertown, N. Y.; sewage pumping station at Summit, N. J. TT 13.5: P 13.5: RC 9.3: D 9.3. TT 19.5: SP 2: P 17.5: RC 10: D 9.3. Refers to J. W. Ackerman, J. T. Chase, J. H. Dunlap, W. E. Fuller, A. Hazen, G. C. Whipple.

699 (11) FITTERER, JOHN CONRAD, Assoc. M., 511 South 11th St., Laramie, Wyo. (Elected April 2, 1912.) (Age 52. Born Clyde, Ohio.) 1898 B. Sc., Ohio State Univ. 1904 B. S. in C. E., and 1912 C. E., Univ. of Colo. Prior to graduation in office and works, and 1898 to Jan. 1903 in charge of a department, American Clay Machinery Co., Bucyrus, Ohio. TT 2: SP 2. Summer 1904 Leveler, U. S. Geological Survey. Autumn 1904 to 1906 (except part of winter 1904) Transitman on water supply, Montrose, Colo.) with U. S. Reclamation Service, on topographic development of La Plata Project, N. Mex., preliminary irrigation designs, etc.; spring and summer 1905 in field and office, La Plata Project (receiving rank of Asst. Engr. in U. S. Reclamation Service), autumn and winter 1905-1906 topographic survey of Kremmling Reservoir, Colo., drew final map and computed storage capacity; winter, spring and summer 1906 short time at Montrose, Uncompahgre Project, then on North Platte Project, first at Ft. Laramie, Wyo., on Interstate Canal, then in charge of 2d Lateral Dist., Mitchell, Nebr., designing structures and locating ditches and laterals for about 35 000 acres. TT 2: SP 1.5: P 0.5: RC 0.5. Sept. 1906 to Feb. 1908 with Central Colorado Power Co. at Shoshone, Colo., on power tunnel, began surveys and later as Res. Engr. located line (about 2½ miles long) and saw most of it driven. TT 1.5: P 1.5: RC 1.5. Feb. to Sept. 1908 on triangulation, topography and line surveys on Orchard Mesa Irrigation Project, Grand Junction, Colo. TT 0.5: P 0.5. Sept. 1908 to date Prof. of Civ. and Irrigation Eng., Univ. of Wyoming, Irrigation Engr. for Agricultural Experiment Station. Since 1922 Acting Dean, Coll. of Eng., Univ. of Wyoming. Summer 1918 at La Junta, Colo., stream gauging, Arkansas River from Twin Lakes, Colo., to Garden City, Kans. Summer 1920 consultation, water supply and sewer extension, Laramie, Wyo. (\$350 000 project). Summer 1921 in irrigation practice. Summer 1922 on extension of heating plant, Univ. of Wyoming (\$20 000). TT 15.6: P 15.6: RC 15.6. TT 21.9: SP 3.8: P 18.1: RC 17.6: D 17.6. Refers to C. Derleth, Jr., J. A. Elliott, F. C. Emerson, J. E. Field, M. C. Hinderlider, A. Weiss.

700 (9) FLOYD, EARL NESBY, Assoc. M., 600 Bldg. 4 Bldg., Cincinnati, Ohio. (Elected Oct. 3, 1911.) (Age 43. Born Isom, Tenn.) 1906 B. Sc. in Civ. Eng., Univ. of Tenn. March 1906 to April 1908 Draftsman, Leveler and Transitman, Louisville & Nashville R. R. TT 4: SP 4. Oct. 1908 to June 1909 Draftsman, Leveler and Topographer, Central of Georgia Ry. TT 0.8: SP 0.8. June 1909 to Dec. 1911 Surveyor and Jun. Engr., U. S. Govt., Muscle Shoals survey and dam construction, Hales Bar. TT 2.5: SP 0.2: P 2.3: RC 2: D 0.2. Dec. 1911 to Feb. 1914 Field Engr., Pittsburgh Testing Laboratory; cement testing, inspections and reports on concrete failures, etc. TT 2.2: P 2.2: RC 2.2. Feb. 1914 to Feb. 1919 Asst. Engr. and Div. Engr., Miami Conservancy Dist., general flood prevention work and in charge of railroad relocation. TT 5: P 5: RC 3: D 2. Feb. 1919 to date Engr., Fire Protection, Cleveland, Cincinnati, Chicago & St. Louis Ry., in charge of fire protection and fire insurance for the railway and subsidiary lines. TT 5.2: P 5.2: RC 5.2. TT 19.8: SP 5.1: P 14.7: RC 12.5: D 2.2. Refers to R. B. McWhorter, C. A. Paquette, C. H. Paul, W. M. Smith, W. F. Steffens, H. F. Taylor, W. S. Winn.

701 (13) FOWLER, FREDERICK HALL, Assoc. M., 221 Kingsley Ave., Palo Alto, Cal. (Elected Jun. April 3, 1906; Assoc. M. April 4, 1911.) (Age 45. Born Ft. Custer, Mont.) 1905 A. B. in Civ. Eng., Leland Stanford, Jr., Univ. May to July 1903 Axeman and Topographer, Western Pacific R. R. July to Aug. 1903 Recorder, Bay Cities Water Co. Sept. to Dec. 1904 Acting Asst. in Plane Surveying, and Jan. to May 1905 Field Asst. in R. R. Surveying, Stanford Univ. TT 2: SP 2. Aug. to Nov. 1905 Asst. Engr. in charge of estimates for, and Nov. 1905 to Jan. 1906 Asst. Engr. in charge of construction of, California Sluiceway and California Section of Laguna Dam, Yuma, Ariz., for J. G. White & Co. TT 0.5: RC 0.5. Feb. 1906 to April 1907 in charge of Slippery Ford Gauging Station, for Bay Cities Water Co.; general hydrographic and engineering work consisted of surveys of 15 miles of El Dorado Canal and of sites for several reservoirs, a tunnel and two dams, and location of two reservoir sites, American River, Cal. TT 1.2: RC 1.2. Aug. 1907 to Aug. 1908 Instructor in Civ. Eng., Leland Stanford Univ., in charge of Mechanics of Materials Testing Laboratory. TT 1: RC 1. Aug. 1908 to May 1909 traveling in Europe and Egypt, giving especial atten-

tion to irrigation works in Egypt. June to July 1909 on topographic survey of Marion Island, Lake Michigan. *TT 1: RC 1.* March to Sept. 1910 in charge of construction and part of design of sewer system of Mayfield, Cal. *TT 0.5: RC 0.5: D 0.1.* Aug. 1910 to Sept. 1922 with U. S. Forest Service, until March 1913 as Hydro-electric Engr. in office of Chf. Engr., San Francisco, Cal., on water-power investigations; and after May 1913 (except May to Aug. 1917 in training camp, Presidio, San Francisco, and July to Dec. 1918 Capt., Engr. Reserve Corps, in Office of Chf. of Engrs., Washington, D. C., and Topographic Officer, 211th Engrs., 11th Reg. Army Div., Camp Meade, Md.), Dist. Engr., Dist. 5 (all of California and Western Nevada), at San Francisco, on water power investigations, also special reports on projects in Utah, Idaho and New Mexico (total capacity of all projects upwards of 1 500 000 h. p.); subsequent to July 1920 work was carried on as engineering representative of Federal Power Comm. in California and Western Nevada; preparation of comprehensive road system for National Forests and supervision of its execution in cooperation with proper Bureaus of Federal, State and County Governments; supervision of design and construction of road and trail bridges; planning and execution of secondary triangulation net-work and topographic surveys; supervision of special intensive stream flow and rainfall studies in Los Angeles County in cooperation with other bureaus of Federal Government and County authorities; 1917 and 1918 Adviser to U. S. Fuel Administration, San Francisco. *TT 12.2: RC 12.2: D 0.7.* Sept. 1922 to date Cons. Engr. in San Francisco; reporting on miscellaneous irrigation and power projects, valuation of surface properties, Gen. Petroleum Corporation, surveys and preliminary plans for power projects, etc. *TT 1.7: RC 1.7: D 0.3.* *TT 19.6: RC 17.3: D 1.1.* Refers to J. C. L. Fish, H. L. Haehl, W. L. Huber, W. Kelly, J. B. Lippincott, C. D. Marx, T. H. Means, O. C. Merrill, T. W. Norcross, C. B. Wing.

702 (9) GRANNIS, JAMES KIDWELL, Assoc. M., 908 Mutual Home Bldg., Dayton, Ohio. (Elected Junior Sept. 6, 1910; Assoc. M., April 14, 1919.) (Age 36. Born Flemingsburg, Ky.) 1908 B. C. E., Ky. State Univ. May to Sept. 1906 Asst. to Chf. Engr., Southern Illinois Constr. Co., Illinois Traction System, in charge of field forces, track construction, East St. Louis to Hillsboro and Carlinville, Ill. May to Oct. 1907 Foreman, The Oliver Co., reinforced concrete construction. *TT 2: SP 2.* June 1908 to March 1909 Supt. of Constr. with Bower Bros., Flemingsburg, Ky., in active charge of all forces, bridge work. *TT 0.7: P 0.7: RC 0.7: D 0.2.* March to June 1909 Structural Engr., H. L. Stevens & Co., at Houston, Tex., on reinforced concrete and steel design. June 1909 to July 1917 Gen. Supt. for same Company, in full charge branch office, structural design, architectural detail, specifications, purchasing, auditing, disbursing, fireproof theatres and hotels. *TT 8.3: SP 0.2: P 8.1: RC 8.1: D 2.2.* July to Aug. 1917 Asst. Supt. of Constr., Wilbur Wright Aviation Field, Fairfield, Ohio, and Aug. to Oct. 1917 Supt. of Constr., Wilbur Wright Field, supervision of Contr.'s forces, including detail and supervisory design. *TT 0.3: P 0.3: RC 0.3: D 0.2.* Oct. 1917 to April 1919 Supt. of Operations, Govt. Aviation Fields, Dayton, Ohio, including Wilbur Wright Field. Aviation General Supply Depot, Fairfield, McCook Field, Dayton, Acceptance Park, Moraine, Ohio; supervision of contractor's forces and execution of construction without contractor; supervision, architectural engineering, designs, purchasing, auditing, disbursing, etc.; actual design of structures, sewers, sewage disposal, surface drainage. *TT 1.4: P 1.4: RC 1.4: D 1.4.* April 1919 to date Engr. with Schenck & Williams, Archts., Dayton, in charge of Contract Dept., preparing estimates, awarding contracts and conducting contractual relations and general supervision of construction of approx. \$2 000 000 annually; also associate in design and detail. *TT 5: P 5: RC 5: D 2.* *TT 17.8: SP 2.2: P 15.6: RC 15.6: D 6.1.* Refers to P. S. Bookwalter, C. H. Paul, C. D. Putnam, N. Q. Sloan, H. L. Stevens.

703 (1) GRIFFIN, ARTHUR JAMES, Assoc. M., 40 Downing St., Brooklyn, N. Y. (Elected Dec. 7, 1904.) (Age 46. Born Brooklyn, N. Y.) 1895 B. S. in Civ. Eng., Pol. Inst. of Brooklyn. July to Sept. 1894 Asst. in surveying party, Bureau of Water Supply, Dept. of City Works, Brooklyn, N. Y. *TT 2: SP 2.* July 1895 to April 1897 Rodman, Leveler and Inspector, Bureau of Wallabout Improvement, Dept. of City Works, Brooklyn, on surveying, dredging and dock construction. *TT 1.8: SP 1.8.* April 1897 to Jan. 1898 Leveler, 23d and 24th Ward Improvement Comm., New York City, surveying on sewer construction. *TT 0.7: SP 0.7.* Jan. 1898 to July 1901 Leveler and Transltman, Bureau of Sewers, Borough of Bronx, New York. *TT 3.5: SP 2.5: P 1.* July 1901 to July 1907 Transltman and Asst. Engr., Bureau of Sewers, Borough of Queens, New York, on construction of Elmhurst Disposal Plant, 15-ft. St. Nicholas Ave. Sewer and other smaller sewers. *TT 6: P 6: RC 6.* July 1907 to date with Bureau of Sewers, Brooklyn, until Sept. 1918 as Engr. of Constr. and Acting Chf. Engr. at times in absence of Chf. Engr., on construction of sewers, pumping stations and attendant structures (value of work over \$15 000 000); since then Acting Chf.

Engr. and (since July 20) Chf. Engr., on design and construction of sewers, disposal plants and attendant structures (value of work over \$20 000 000). TT 16.9: P 16.9: RC 16.9: D 6.7. TT 30.9: SP 7: P 23.9: RC 22.9: D 6.7. Refers to W. E. Belknap, W. W. Brush, P. P. Farley, J. H. Fitch, E. J. Fort, L. V. Morris, A. S. Tuttle.

704 (11) JANSEN, EDWARD CLINTON, Assoc. M., 822 Symes Bldg., Denver, Colo. (Elected May 3, 1905.) (Age 45. Born Shanghai, China.) April 1896 to April 1899 articulated under John T. Eayrs, designing sewerage and sewage disposal systems under his supervision. TT 3: P 3. May 1899 to Sept. 1900 Asst., Eng. Dept., Great Northern Ry., London, England. TT 1.3: P 1.3. Dec. 1900 to Oct. 1904 Chf. Asst., Municipal Engr.'s office, Shanghai, China, on design and construction of public buildings, bridges, roads, sewerage, etc. TT 3.8: P 3.8. March 1907 to March 1916 Civ. and Hydr. Eng. Asst., Central Colorado Power Co., on water-power and hydrographic investigations in Colorado; in charge of surveys in connection with 21 000-h. p. Boulder water-power development (cost \$2 700 000); Asst. Res. Engr. of construction of diverting dam in Grand River for 18 000-h. p. Shoshone Development (\$360 000); 1910 and 1911 made special study of irrigation requirements for 30 000 acres of land affected by the Boulder Development. TT 4.7: P 4.7. 1912 to March 1916 Hydr. Engr., Central Colorado Power Co. and its successor, Colorado Power Co., on design and construction of improvements to and maintenance of Company's plants, reservoirs, dams, pipe-lines and transmission system. TT 4.2: P 4.2. March 1916 to date Chf. Engr., Colorado Power Co., in responsible charge of design and construction of improvements and maintenance of property (comprises hydro-electric plants on Grand River and on Boulder Creek, 18 000 and 21 000 h. p., and at Georgetown and Salida; steam plants at Alamosa, Salida and Sterling; 180 miles of 100 000-volt transmission lines, approx. 675 miles of secondary power lines; 34 000-acre ft. reservoir for irrigation at Loveland); principal additions designed and constructed include addition to Salida Steam Plant. (\$48 972); new steam plant at Sterling for 2 250-kw. steam equipment, including boiler and condensing equipment, reinforced concrete coal bins, stacks, residences, water-supply, etc. (\$205 600); 500- and 750-kw. additions to Alamosa Steam Plant, including buildings, spray pond and alterations (\$80 000); substation and 29 miles of 44 000-volt transmission line to Moffat Tunnel (\$118 198); approx. 300 miles of secondary power lines (estimated cost \$450 000); also on civil and hydraulic engineering work in connection with maintenance of and improvements to Company's plants, reservoir, dams and pipe-lines. TT 8.3: P 8.3: RC 8.3: D 8.3. TT 25.3: SP 3: P 22.3: RC 8.3: D 8.3. Refers to H. A. Belden, L. D. Blauvelt, R. Follansbee, G. H. Matthes, A. O. Ridgway, J. C. Ulrich.

705 (11) KABASHIMA, MASAYOSHI, Assoc. M., No. 4, 14 Marunouchi Central, Tokyo, Japan. (Elected May 2, 1906.) (Age 46. Born Tokyo, Japan.) 1901 B. S., Civ. Eng. Sec., Tokyo Imperial Univ. Jan. 1902 to Feb. 1904 Draftsman with Waddell & Hedrick, Cons. Engrs., Kansas City, Mo., on design and detailing of many bridges, such as bridges over Fraser River, B. C., Canada, and over Missouri River at St. Charles, Mo., an 520-ft. draw span over Missouri River at East Omaha, Nebr. TT 4.1: D 1. March 1904 to March 1905 Draftsman, American Bridge Co., Ambridge, Pa., on detailing and checking of rolling lift bridges over Mianus River, Conn., standard bridge for Buffalo & Susquehanna Ry., arch bridge, Cordova, etc. TT 1.1: D 1.1. March 1905 to May 1906 with Waddell & Hedrick, on designs, detailing, checking, etc., of 6th St. Viaduct, Kansas City, Mo., 290-ft. arch bridge, New Zealand, some standard bridges for Kansas City Southern Ry. TT 1.3: RC 1.3: D 1.3. June 1906 to Jan. 1921 City Engr., Tokyo Municipality, Japan, until March 1917 in charge of Municipal Bridge Dept., on designs, construction, supervision and maintenance of over 500 bridges; from March 1917 to Nov. 1920 in charge of Board of Public Works, including Highway, Sewerage, Bridge, Harbor, Canal, River and Bldg. Depts.; Nov. 1920 to Jan. 1921 Chf. Engr. of Tokyo Municipal Highway Bureau. April 1920 to date also Advisory Engr., Yokohama Municipality. Since March 1921 also in private practice as Cons. Engr. on design and supervision of structural works, including steel skeletons and foundations for Yokohama Savings Bank Bldg. (cost \$1 000 000) and for First Bank Bldg. (cost \$150 000), and bridges over Ohkuma River (cost \$100 000) and Yodo River (cost \$500 000); since April 1921 Advisory Engr., Edogawa Water Works, on design and supervision of water main bridges and elevated tanks (cost \$1 000 000); since Sept. 1921 Advisory Engr., Shizuoka Prefectural Govt. on design and supervision of bridges (\$3 500 000); since Dec. 1921 Advisory Engr., Miye Prefectural Govt. and Aichi Prefectural Govt., and since Oct. 1923 Advisory Engr., Tokyo Reconstruction Board on design of City bridges. TT 17.8: RC 17.8: D 17.8. TT 24.2: RC 19: D 21.1. Refers to T. Chiba, I. Hiroi, H. Inagaki, C. Oinoyue, S. Takahashi, T. Tsuji, J. A. L. Waddell.

- 706 (4) KRUSE, OTTO V.**, Assoc. M., Atlantic Bldg., Philadelphia, Pa. (Elected May 13, 1918.) (Age 37. Born Moravia, N. Y.) 1909 C. E., Cornell Univ. June to Oct. 1907 with U. S. Govt. as Recorder on international boundary survey between Alaska and Canada, section from Juneau to Skagway. TT 2: SP 2. June 1909 to July 1917 with Ontario Power Co. of Niagara Falls on design, construction, testing and maintenance of 163 000-h. p. hydro-electric power plant; during last 3 years acted as Mech. Engr. in responsible charge of this work; Oct. 1913 to Nov. 1914 also with Salmon River Power Co. completing mechanical design and assisting in testing and placing in operation 30 000-h. p. hydro-electric power plant at Altmar, N. Y.; April 1917 witness for Niagara Falls Power Co. TT 8: P 8: RC 3: D 5. July 1917 to Nov. 1918 Plant Engr., Oldbury Electro-Chemical Co. of Niagara Falls, N. Y., Mfrs. of Phosphorous chlorates and other Electric-Chemical and Electric Furnace Products, in responsible charge of design and construction of extensions to plant and equipment and erection of new plant. TT 1.3: P 1.3: RC 1.3. Nov. 1918 to date with Larner-Johnson Valve & Eng. Co. and Larner Eng. Co., as Hydr. Engr. in responsible charge of design, sales and management of business (pressure pipe line regulation, including engineering and sales of differential surge tank) having charge of design and sales of hydraulic valves for penstocks of hydro-electric power plants, water-works systems and miscellaneous uses; since Aug. 1921 also Cons. Engr. for Wm. Cramp & Sons S. & E. B. Co., I. P. Morris Dept., in responsible charge of design and sales of hydraulic penstock valves and discharge regulators. TT 5.5: P 5.5: RC 5.5. TT 16.8: SP 2: P 14.8: RC 9.8: D 5. Refers to H. G. Acres, F. A. Barnes, O. D. Dales, N. R. Gibson, J. L. Harper, T. H. Hogg, C. W. Larner, H. P. Rust, J. C. Smith; has charge of 15 employees and subject to special challenges 000 12 has 000 21. *See also 1918-1919 and 1920-1921.*
- 707 (7) MENEFEE, FERDINAND NORTHUP.**, Assoc. M., Ann Arbor, Mich. (Elected Junior June 30, 1911; Assoc. M. June 3, 1915.) (Age 38. Born Columbus, Kans.) 1908 B. S. in Civ. Eng., Univ. of Nebr. 1910 C. E., Cornell Univ. June to Sept. 1905 Blacksmith's Helper, and June to Sept. 1906 Axeman, Rodman and Bridge Inspector, Chicago, Burlington & Quincy R. R. June to Sept. 1907 Inspector, conduit system, Omaha & Council Bluffs Ry. June to Sept. 1908 Surveyman, Chicago & North Western R. R., maintenance, June to Sept. 1909 Asst. City Engr., South Omaha, Nebr., in charge of paving. TT 2.5. Feb. to June 1910 Instructor in Civ. Eng., Cornell Univ. June to Sept. 1910 Surveyman, U. S. Reclamation Service. TT 0.7. Sept. 1910 to June 1911 Instructor in Descriptive Geometry and Drawing, Sept. 1911 to June 1913 Instructor in Drawing, July 1913 to June 1914 Asst. Prof. of Drawing, and Sept. 1914 to June 1916 Asst. Prof. of Eng. Mechanics, Univ. of Michigan. June to Sept. 1911 Engr., Central Oregon Irrigation Co., Bend, Ore. June to Sept. 1912 Designer, Chicago, Milwaukee & St. Paul Ry. June to Nov. 1914 Office and Field Engr. on Pere Marquette Appraisal for M. E. Cooley. June to Sept. 1915 Designer of hydro-electric power plants and dams, and June to Sept. 1917 Designer, Fargo Eng. Co., Jackson, Mich. TT 7: D 1.5. Sept. 1917 to May 1919 with Ordnance Dept., U. S. Army, 2 months as Engr. of Tests; from Oct. 1917 to July 1918 Capt. in charge of all testing for acceptance of ordnance material by the government; and after July 1918 Major, in charge of engineers of tests and metallurgical chemists. TT 1.7: RC 1.7. June 1919 to Jan. 1920 Secy., and Jan. 1920 to date Vice-Pres., United Eng. Corporation in charge of Civ. Eng. Dept., first 7 months on work involving surveys and estimates on \$300 000 limestone quarry, preliminary report on \$300 000 hydro-electric plant; remodeling Peoples Bank, Manchester, Mich.; \$15 000 addition to water-works, Lakeview, Mich.; surveys and engineering incident to hydraulic dredging projects on Cass Lake and Angelus Lake for J. W. Drake and George A. Drake of Detroit; remodeling Ypsilanti Savings Bank (\$40 000); past 4 years at Detroit, work on design of 5-story factory type of building (expenditure \$75 000); also preliminary reports, estimates and design of municipal water-works system (cost \$75 000); design of \$800 000 sanitarium for Owen Sanitarium Co. Ypsilanti (not yet built); Oct. 1919 to date also Prof. of Eng. Mechanics, Univ. of Michigan, since Sept. 1922 with administrative charge of Dept. of Eng. Mechanics. TT 4.6: RC 4.6. TT 16.5: RC 6.8: D 1.5. Refers to A. R. Bailey, W. C. Hoad, E. D. Rich, H. E. Riggs, W. W. Tefft. *See also 1918-1919 and 1920-1921.*
- 708 (5) MILLER, ROBERT MONFORT**, Assoc. M., R. F. D. No. 1, Box 230, Sewalls Point, Norfolk, Va. (Elected April 19, 1920.) (Age 38. Born Madisonville, Ohio.) 3½ years student, Civ. Eng., Purdue Univ. May to Sept. 1906 Rodman, Baltimore & Ohio Ry. TT 0.4: SP 0.4. Aug. 1908 to Sept. 1910 Field Engr., New River Lumber Co. and New River Coal & Coke Co., in charge of surveys, railway location and construction, building design and construction. TT 2.1: P 2.1: RC 2.1: D 0.5. June 1913 to May 1917 Concrete Inspector, bridge construction, Instrumentman, maintenance of way and construction, Pilot of valuation, Asst. Valuation Engr., Virginian Ry., Norfolk, Va. TT 3.9: SP 1: P 2.9: RC 1.7. May 1917 to April 1919 Capt., Engrs., U. S. Army; 1st Engr. Officers' Training Corps, Ft. Leavenworth,

Kans.; School of Arms, Ft. Sill, Okla.; 308th Engrs., Camp Sherman, Ohio; commanded 469th Engrs., Ft. Slocum, N. Y., also 70th Engr. Battalion, Ft. Douglas, Utah; Engr. School, Angers, France; and Civ. Engr. of Port of St. Nazaire, France. *TT 1.9: SP 0.3: P 1.6: RC 1.6.* April 1919 to May 1920 Res. Engr. on location, Dist. Engr. in charge of Dist. No. 1, State Road Comm. of Utah, Ogden, Utah. *TT 1.1: P 1.1: RC 1.1: D 0.5.* May 1920 to date Asst. Engr., Valuation, in charge of field work for Order No. 3; Res. Engr. in charge of construction of Virginian & Western Ry. (Branch Line of Virginian Ry., 19½ miles), grading, tunnels, viaducts, track-laying and operation (6 months); in charge of construction of coal pier No. 2, Sewalls Point, Va. *TT 3.9: P 3.9: RC 3.9. TT 13.3: SP 1.7: P 11.6: RC 10.4: D 1.* Refers to H. Fernstrom, W. N. Frickstad, H. O. Garman, B. W. Guppy, F. F. Harrington, W. K. Hatt, H. S. Kerr, A. M. Traugott.

709 (12) MORGAN, WALTER LLEWELLYN, Assoc. M., E-1628 Tenth Ave., Spokane, Wash. (Elected Sept. 12, 1921.) (Age 44. Born Afton, Iowa.) March 1902 to Dec. 1904 Tapeman and Rodman with City Engr., Colorado Springs, Colo. *TT 2.7: SP 2.7.* 1905 Tapeman and Rodman, Chicago, Rock Island & Pacific Ry., and Tapeman and Transitman with Case Bros. & Knapp, Min. Engrs., Goldfield and Beatty, Nev. *TT 0.6: SP 0.6.* Feb. to Aug. 1906 Levelman and Transitman, and Nov. 1908 to Feb. 1909 Tapeman and Rodman, Empire Power & Water Co., Colorado Springs. *TT 0.7: SP 0.7.* Aug. 1906 to June 1907 and Feb. to April 1909 Draftsman with W. P. Woodside, County Surveyor, Colorado Springs, maps, plans and records. *TT 1.1: SP 0.7: P 0.4: D 0.4.* June to Oct. 1907 level, transit and planetable work, Central Colorado Power Co., Colorado Springs, power and irrigation investigation surveys on South Platte River, in charge of topographic party. *TT 0.4: SP 0.1: P 0.3: RC 0.3.* 1908 (intermittently) with several engineering firms on miscellaneous work. *TT 0.5: SP 0.5.* May 1909 to Nov. 1910 Chf. Draftsman with E. C. van Diest, Cons. Engr., Colorado Springs, designs and detail plans for irrigation and mining projects. *TT 1.5: P 1.5: RC 1.5: D 1.5.* Nov. 1910 to April 1911 First Asst. to Chf. Draftsman, Costilla Estates Development Co., Colorado Springs and San Acacia, Colo., maps, designing and detail plans of diversion dams and canal structures on \$1 000 000 irrigation project. *TT 0.4: P 0.4: D 0.4.* May 1911 to Dec. 1913 Constr. Engr. and Draftsman, City of Colorado Springs, sewer and water-works location and construction; street improvement; official surveys; Prin. Asst. on local improvement districts (cost \$350 000 and \$50 000) (sheet asphalt paving construction and assessment rolls). *TT 2.6: P 2.6: RC 2: D 0.6.* Dec. 1913 to Feb. 1914 Engr. in charge of snow removal, Street Dept., Colorado Springs, and preparation of assessment rolls for same. *TT 0.2: P 0.2: RC 0.2.* June to Sept. 1914 Timekeeper, C., M. & St. P. Ry., on construction in Montana. *TT 0.3: SP 0.3.* March 1915 to May 1918 City Engr., Cheney, Wash., complete charge of plans, specifications and construction of Local St. Improvement District (cost \$50 000), also designing and construction of \$10 000 water-works improvements; also in private practice. *TT 3.2: P 3.2: RC 3.2: D 3.2.* May 1918 to date with Spokane County, Wash., until Jan. 1919 as Locating and Constr. Engr. with County Engr., supervision of bridge construction, highway location and drainage canal surveys; then Draftsman in charge of county road establishment and records, maps, designs and estimates for miscellaneous work; since April 1920 Office Engr. (Prin. Asst.) with County Engr., in charge of office work, maps, records, designs, plans and estimates on roads and bridges; surveys and establishment of township roads; during 1920 supervised construction of \$13 000 drainage canal. *TT 6.1: P 6.1: RC 4.8: D 4.1. TT 20.3: SP 5.6: P 14.7: RC 12: D 10.2.* Refers to A. D. Butler, C. E. Davis, H. J. Doolittle, F. H. Feller, B. J. Garnett, J. D. Koren, J. C. Ralston.

710 (13) NISHKIAN, LEON HAGOP, Assoc. M., 158 Merced Ave., San Francisco, Cal. (Elected Oct. 3, 1911.) (Age 42. Born Constantinople, Turkey.) 1906 B. S., Coll. of Civ. Eng., Univ. of Cal. May 1906 to Dec. 1909 in various positions, principally with structural engineers, designing steel and concrete building for contractors and architects; about 4 months on railroad construction (total value about \$2 000 000). *TT 5.5: P 2.5: SP 3: RC 1.5: D 0.5.* Dec. 1909 to Aug. 1911 with Parkinson & Bergstrom, Archts., under Chf. Engr. on various steel frame buildings (total value about \$5 000 000). *TT 1.8: P 1.8: RC 1.8.* Sept. 1911 to Feb. 1917 with City of San Francisco, about 3 years as Asst. Engr. in City Engr.'s office, and remainder of time Cons. Structural Engr. in Bureau of Bldg. Inspection, on design of buildings, tunnels, chimneys, tanks, dams, etc.; also checking structural design of private buildings (total value over \$10 000 000). *TT 5.5: P 5.5: RC 5.5: D 1.5.* Feb. 1917 to Aug. 1919 with MacDonald & Kahn, designing concrete buildings and managing construction (total value of buildings \$500 000). *TT 1.5: P 1.5: RC 1.5: D 0.5.* Aug. 1919 to date in private practice as Cons. Engr. on steel and concrete buildings and managing

building construction (total value of buildings about \$5 000 000). *TT 4.5: P 4.5: RC 4.5: D 4.5. TT 18.8: SP 2.5: P 16.3: RC 14.8: D 7.* Refers to J. R. Cahill, M. C. Couchot, H. D. Dewell, J. H. Hjul, C. B. Hopkins, J. Rosenwald, C. H. Snyder.

711 (2) OLDS, ROBERT FRANKLIN, Assoc. M., Whitingham, Vt. (Elected Nov. 12, 1913.) (Age 43. Born Providence, R. I.) 1906 B. S. in C. E., and 1909 C. E., Univ. of Me. June 1906 to Jan. 1907 Draftsman, Penn Steel Co. *TT 2.5: SP 2.5.* Jan. to June 1907 Instructor, Pennsylvania State Coll. *TT 0.5: P 0.5.* June 1907 to July 1909 Chf. of Party for C. W. Fenn, C. E., on surveys and plan for new water supply for Portland, Me., property and highway surveys. *TT 2: P 2: RC 2: D 1.* July 1909 to Sept. 1915 Civ. Engr. and Supt. of Constr., U. S. War Dept., in charge of construction of barracks, quarters, hospital, docks, warehouses, sewer and water systems. *TT 6.2: P 6.2: RC 5.2: D 3.* Sept. 1915 to July 1916 in private practice as Constr. Engr. *TT 0.8: P 0.8: RC 0.8: D 0.5.* July 1916 to April 1918 Supt. of Constr. on reinforced concrete buildings, concrete and steel factory buildings and fortifications. *TT 1.9: P 1.9 RC 1.9.* April 1918 to March 1920 Asst. Engr. for J. A. P. Crisfield Cont. Co., in charge of equipment and placing concrete in masonry dam. *TT 2: P 2: RC 2.* March to Nov. 1920 Designing Engr. for Ford, Bacon & Davis of New York, on design and estimates for new water supply and drainage system for Athens and Pireaus, Greece. *TT 0.7: P 0.7: D 0.7.* March to May 1921 Asst. Engr. on state highway work. *TT 0.2: P 0.2: D 0.2.* June 1921 to date Asst. Engr., Power Constr. Co., Worcester, Mass., in immediate charge in field of preliminary work, construction of 200-ft. earth dam, spillway and intake tower. *TT 2.9: P 2.9: RC 2.9. TT 19.8: SP 2.5: P 17.3: RC 15.1: D 5.2.* Refers to J. J. Baker, H. S. Boardman, A. S. Crane, A. C. Eaton, G. W. Howson, W. E. Spear.

712 (15) PAXTON, THOMAS PRESTON, Assoc. M., Box 937, Okmulgee, Okla. (Elected June 11, 1917.) (Age 36. Born Glasgow, Va.) 1904 to 1905 Student, School of Eng., Washington & Lee Univ. June to Oct. 1905 Rodman, Virginian Ry. Co. *TT 0.8.* Oct. 1905 to Dec. 1906 Rodman and Instrumentman, Virginia & Southwestern Ry. Co. *TT 1.2.* Jan. 1907 to May 1908 Asst. Min. Engr., May 1908 to Sept. 1909 Min. Engr., and Sept. 1909 to July 1910 Engr. in charge of all mine and land surveys and preparation of all maps for four large coal mines and 30 000-acre lease for LaFollette (Tenn.) Coal, Iron & Ry. Co.; also all engineering connected with maintenance of 12 miles of railroad. *TT 3.5: RC 2.2.* July 1910 to Oct. 1911 Asst. County and City Engr., Okmulgee, Okla., surveys for and construction of roads, bridges, streets, sidewalks, paving and sewers. *TT 1.3.* Oct. 1911 to Oct. 1912 Instrumentman, Missouri, Oklahoma & Gulf Ry. Co. *TT 1.* Oct. 1912 to March 1913 Asst. County Engr., Okmulgee County, Okla. *TT 0.5.* March 1913 to Jan. 1915 Draftsman and Office Engr., Constr. Dept., Canadian Pacific Ry. Co., Sudbury, Ontario, double-track construction on north shore of Lake Superior. *TT 1.9.* Oct. 1915 to April 1917 County Engr., Okmulgee County, in charge of all road and bridge work for county and townships, consisting of surveys and designs for roads, steel and concrete bridges and culverts; also superintending construction (expenditure \$150 000 annually). *TT 1.6: RC 1.6: D 1.6.* April 1917 to April 1921 Commr. of Public Works, City of Okmulgee, in charge of all engineering and public works, including water-works, streets, parks, paving and sewer construction; had charge of design and construction of over \$1 000 000 worth of paving and \$175 000 worth of sewers; also \$800 000 water-works and sewage-disposal plant installation, with Burns & McDonnell Eng. Co. of Kansas City, Mo., as Cons. Engrs. *TT 4: RC 4: D 4.* April 1921 to date Cons. Engr., Okmulgee, chiefly on appraisals and valuation reports on oil and gas properties. *TT 3: RC 3: D 3. TT 18.8: RC 10.8: D 8.6.* Refers to A. H. Kindrick, M. Leon, R. E. McDonnell, L. B. Reynolds, S. G. Slusher, G. N. Toops, R. E. Witt.

713 (1) PIRNIE, HERBERT MALCOLM, Assoc. M., 25 West 43d St., New York City. (Elected Jun. Feb. 4, 1914; Assoc. M. June 23, 1916.) (Age 35. Born New York City.) 1910 S. B., and 1911 M. C. E., Harvard Univ. *TT 2: SP 2.* June 1911 to Dec. 1916 Asst. Engr. with Hazen & Whipple, from June 1911 to July 1912 in charge of investigations, surveys for reports on water supply, St. Albans, Vt., and Norfolk, Va.; Aug. 1912 to Feb. 1913 and April to Aug. 1914 on design of mechanical filtration plants for Ottawa, Canada; Feb. to March 1913 charge of experimental work in Harvard Hydr. Laboratory, on certain types of filter construction; April to June 1913 remodeled and operated Vassar Coll. sewage-disposal plant; July 1913 to April 1914 in charge of investigations and surveys for additional water supply for Salem and Beverly, Mass.; Aug. 1914 to April 1915 in charge of detailed survey and location of part of first installment of these works and work on design; April 1915 to March 1916 in charge of investigations of new sources of water supply for

Watertown, N. Y., including reconnaissance, test wells, stream measurements, topographical surveys, preparation of plans for various projects. TT 4.7: P 4.7: RC 2.5: D 2.1. Dec. 1916 to date member of firm, Hazen, Whipple & Fuller (now Hazen & Whipple); June 1917 to Jan. 1918 also Asst. San. Engr. with American Red Cross, Comm. to Russia. March 1918 to March 1919 also Asst. Engr., water supply, E. of C., D. G. T., A. E. F., Capt., T. C., planning water service railroad lines of communication. March 1919 to date also in general consulting practice, including supervision of operation, filter plants, Watertown and Poughkeepsie, N. Y., Miami and West Palm Beach, Fla., design of purification plant for West Palm Beach, design of purification works for Watertown and Long Beach, N. Y., Danville, Va., Providence, R. I., West Palm Beach, Fla., and other smaller plants; also reports on water supply and purification requirements for several cities and towns. TT 6.5: P 6.5: RC 6: D 5. TT 13.2: SP 2: P 11.2: RC 8.5: D 7.1. Refers to G. W. Fuller, W. E. Fuller, A. Hazen, G. F. Swain, G. C. Whipple, W. J. Wilgus.

714 (5) PURCELL, STEUART, Assoc. M., 1600 Hilton St., Baltimore, Md. (Elected Oct. 10, 1916.) (Age 46. Born Dublin, Ireland.) 1901 C. E., Cornell Univ. July 1901 to Oct. 1902 Surveyor and Draftsman, Factory Mutual Fire Insurance Co., Boston, Mass. TT 3.3: SP 2: P 1.3. Oct. 1902 to March 1903 Draftsman, S. D. Brady & Bro., Min. Engrs., Clarksburg, W. Va. TT 0.5: P 0.5. March 1903 to Nov. 1910 Levelman and Transitman on Pennsylvania R. R. Improvements at Washington, D. C.; acted as Prin. Asst. to Res. Engr. on construction of two tunnels, twenty-five bridges, four freight yards, three brick and steel warehouses. TT 7.6: P 7.6: RC 4: D 2. Nov. 1910 to April 1912 Engr., Bldg. Dept., Baltimore, on steel and reinforced concrete construction. TT 1.4: P 1.4: RC 1.4: D 0.4. April 1912 to Nov. 1915 with Baltimore Water Dept., first as Chf. Draftsman, then Asst. Div. Engr. on design and construction of mechanical filtration plant (128 000 000 gal. per day). TT 3.6: P 3.6: RC 3.6: D 1. Nov. 1915 to May 1917 Supt. of Fuse Assembly and later Designing Engr., Gathmann Ammunition & Eng. Co. TT 1.4: SP 1: P 0.4: RC 0.4: D 0.4. May 1917 to Feb. 1919 Capt., Engrs., U. S. Army, on special work in United States, principally at Engr. Supply Depot and as member of Examining Board for Engr. Officers. TT 1.8: SP 1.8. Feb. 1919 to June 1923 Div. Engr. in charge of maintenance and reconstruction of highways, City of Baltimore. TT 4.3: P 4.3: RC 4.3: D 1. July 1923 to date Chf. Engr. of Baltimore and Pres. of Dept. of Public Improvements. TT 1: P 1: RC 1: D 0.3. TT 24.9: SP 4.8: P 20.1: RC 14.7: D 5.1. Refers to J. W. Armstrong, A. E. Christliff, R. K. Compton, R. Farnham, R. F. Proctor, E. B. Whitman.

715 (5) REID, CECIL LATTA, Assoc. M., P. O. Box 1412, Richmond, Va. (Elected July 2, 1913.) (Age 41. Born Rock Hill, S. C.) 1902 B. S. in Civ. and Mech. Eng., Clemson Coll. June 1902 to May 1903 Topographer, Draftsman and Asst. to Div. Engr., Atlanta & Birmingham Air Line Ry. TT 2.9: RC 0.2. May 1903 to March 1905 on topographic survey of Appomattox River; railroad survey, Concord to Gastonia, N. C., W. C. Whitner, Richmond. TT 1.8: RC 1.8. March to Dec. 1905 on construction of dam and power house, Towaliga Falls Power Co., Griffin, Ga., W. C. Whitner. TT 0.7: RC 0.7. Dec. 1905 to April 1906 on construction of canal at Petersburg, Va., W. C. Whitner. TT 0.4: RC 0.4. April 1906 to Dec. 1914 on survey of Rappahannock and Rapidan Rivers; design and construction of power house and dam at Fredericksburg, Va., dam at Lake Junaluska, N. C., and power house at Richmond, Va.; management of hydro-electric company, Fredericksburg, Va., W. C. Whitner. TT 8.7: RC 8.7: D 5. Dec. 1914 to date (except June 1917 to July 1919) Vice-Pres., Wm. C. Whitner & Co., designing and constructing hydro-electric plans, etc., for Bedford City, Va., Blue Ridge Power Co., Chesterfield Mfg. Co., Sandhill Power Co., Lakeview, N. C., Bedford Pulp & Paper Co., Richmond, Page Power Co., Stanley, Va., Halifax Power Co., South Boston, Va., Spotsylvania Power Co., Fredericksburg, etc., also on reports, valuations, etc., entailing expenditure of over \$2 000 000; has charge of all design and construction for the company; at present Cons. Engr. for five last-named companies, being also Vice-Pres. and Gen. Mgr. of the Halifax Power Co. TT 7.2: RC 7.2: D 7.2. June 1917 to July 1919 associated with J. E. Serrine, Greenville, S. C., as Asst. Engr. on construction of Camp Wadsworth, Spartanburg, S. C.; in charge of construction, steam plant, Maysville, Ky.; Engr. in charge of construction, Camp Bragg, N. C. (expenditure over \$10 000 000). TT 2: RC 2: D 0.9. TT 23.8: RC 21.2: D 13.2. Refers to J. C. Carpenter, H. L. Hagerman, E. M. Hastings, J. C. Hoyt, C. L. Ruffin, D. H. Sawyer, J. E. Serrine, S. W. Stewart, G. B. Strickler, G. A. Watkins.

716 (1) SCHLICH, OTTO STEPHEN, Assoc. M., 136 Liberty St., New York City. (Elected Jan. 16, 1922.) (Age 38. Born Kaiserslautern, Germany.) 1909 C. E., City College, Mannheim, Germany. March 1910 to Aug. 1914 with Wayss & Freytag, until Oct. 1912 at Neustadt, a.d.H., Dusseldorf, Stuttgart, Germany, then in Buenos Aires, Argentine Republic,

designing and detailing reinforced concrete structures, such as silos, bridges, factories, warehouses, also (4 months) superintending. *TT 6.4: SP 2: P 4.4: RC 1.4: D 3.* Aug. 1914 to April 1915 with Dirks & Dates, Rio de Janeiro, Brazil, designing and supervising factory and office buildings (reinforced concrete construction). *TT 0.7: P 0.7: RC 0.7.* Jan. 1916 to April 1917 with Bosch Magneto Co., Springfield, Mass., as Asst. to Chf. Engr. in charge of design and drafting for erection of new factory buildings. *TT 1.2: P 1.2: RC 1.2.* April to Nov. 1917 with Chile Exploration Co., New York City, designing and checking heavy foundations for industrial buildings. *TT 0.6: P 0.6: D 0.6.* Dec. 1917 to July 1918 with Gunvald Aus Co., New York City, designing and checking reinforced concrete structures for industrial buildings. *TT 0.6: P 0.6: D 0.6.* July to Sept. 1918 with Thompson & Binger, New York City, designing and detailing reinforced concrete structures for industrial buildings. *TT 0.2: P 0.2: D 0.2.* Sept. 1918 to March 1922 with White Constr. Co., Inc., New York City, as Asst. Engr. in charge of design of reinforced concrete structures on industrial buildings. *TT 3.5: P 3.5: RC 3.5: D 0.5.* March 1922 to date member of firm, Himmelsbach & Schlich, Cons. Engrs. and Archts.; firm has designed and supervised construction of packing plants for Vogt Farm Meat Products Co., Harrisburg, Pa. (\$370 000), Central Abattoir Co., Reading, Pa. (\$275 000), and Trenton (N. J.) Packing Co. (\$135 000); cold storage building and power house for Chas. Miller & Co., North Bergen, N. J. (\$85 000); non-edible rendering plant for A. Aron, Inc., Brooklyn, N. Y. (\$65 000); lard oil plant for Louis Stern Sons, Inc., Kearney, N. J. (\$45 000); slaughterhouse for D. Blumberg & Son, Brooklyn (\$60 000); dairy for Shrewsbury (N. J.) Dairy Co. (\$65 000); manufacturing laboratories for Schering & Glatz, Inc., Bloomfield, N. J. (\$125 000); 6-story manufacturing building for Henry Kast, Inc., New York City (\$100 000); provision plant for Herman Delle, Hoboken, N. J. (\$70 000) (last three in course of construction); at present designing new packing plant for A. H. March Packing Co., Bridgeport, Pa. (\$370 000), and new hog-killing plant for Chas. Miller & Co., North Bergen, N. J. (\$125 000). *TT 2.3: P 2.3: RC 2.3: D 2.3.* *TT 15.5: SP 2: P 13.5: RC 9.1: D 7.2.* Refers to K. Berle, R. L. Bertin, S. F. Holtzman, W. Mueser, E. Pendlebury.

717 (1) SMILLIE, RALPH, Assoc. M., 233 Broadway, New York City. (Elected Junior Oct. 1, 1913; Assoc. M. Sept. 9, 1919.) (Age 37. Born Montrose, Pa.) 1909 B. A., Yale Coll. 1913 C. E., Columbia Univ. 1915 M. A., Yale Univ. June 1912 to Aug. 1913 with Interborough Rapid Transit Co., M. of W. Dept., on designs of miscellaneous structures, surveys, etc. *TT 3.2: SP 2: P 1.2: D 1.* Aug. 1913 to Aug. 1916 Structural Draftsman on design of East River Tunnels and Subways, Public Service Comm., 1st Dist., New York. *TT 2: P 2: D 2.* Aug. 1916 to Aug. 1917 with Thornton W. Price, Engr., as Res. Engr. in charge of design and construction of crucible steel plant for Century Steel Co. at Poughkeepsie, N. Y., and of electric furnace plant and accessories for Hammond Steel Co. at Syracuse, N. Y. *TT 1: P 1: RC 1: D 0.3.* Aug. 1917 to July 1919 Navigating Officer, U. S. S. *Bushnell*, etc., U. S. Navy. *TT 1.9: SP 0.9: P 1: RC 1.* Oct. 1919 to date with New York State Bridge & Tunnel Comm. and New Jersey Interstate Bridge & Tunnel Comm. as Asst. Designing Engr. and Designing Engr. on Hudson River Vehicular Tunnel. *TT 4.6: P 4.6: RC 4.6: D 4.6.* *TT 12.7: SP 2.9: P 9.8: RC 6.6: D 7.9.* Refers to C. E. Carpenter, C. M. Holland, G. H. Pegram, F. M. Williams, J. P. J. Williams.

718 (9) SUMMERS, RICHARD ELVIN JEWELL, Assoc. M., 1330 East 141st St., Cleveland, Ohio. (Elected Jun. Nov. 4, 1914; Assoc. M. April 19, 1920.) (Age 35. Born Kansas City, Mo.) 1914 C. E., Cornell Univ. June to Nov. 1914 Business Representative, Instrumentman and Computer on paving assessments for K. C. Gaynor, Cons. Engr., Sioux City, Iowa. *TT 2.3: SP 2.3.* Dec. 1914 to Nov. 1915 Chf. of Party and Instrumentman, on survey, subdivision and mapping of logged-off lands near Tacoma, Wash.; had contract for this work. *TT 1: P 1: RC 1.* Jan. 1916 to June 1917 with McClintic-Marshall Co., Pittsburgh, Pa., until July 1916 as Structural Draftsman, Rankin Plant, then Asst. Engr. on erection of Sciotoville Bridge, especially subaqueous foundations for falsework, and after Dec. 1916 Structural Detailer and Checker, Rankin Plant. *TT 1.5: SP 1.5.* June 1917 to July 1918 1st Lieut., Engrs., Co. F, 15th Engrs.; and July 1918 to April 1919 Capt., Engrs., U. S. Army, from July 1917 to Sept. 1918 in France; 9 months as Engr. Officer in responsible charge of construction on Western Div. of Gievres Depot, including standard-gauge railroad construction, steel and frame warehouses and railroad operation; then at Jonchery, Haute Marne, in command of company, continuing in responsible charge of construction on railroads and warehouses, including an engine-repair house of sawtooth roof construction; after Sept. 1918 Co. Commander, new sapper regiments, Camp A. A. Humphreys, Va. *TT 1.8: P 1.8: RC 1.8.* April to Dec. 1919 with McClintic-Marshall Co.; after June 1919 as Asst. Engr. on design and estimates. *TT 0.7: SP 0.2: P 0.5: D 0.5.* Dec. 1919 to

July 1920 Structural Engr. in charge of steel design, July 1920 to March 1924 Asst. Chf. Engr., and March 1924 to date Chf. Engr., H. K. Ferguson Co., Engrs. and Bldrs., Cleveland, Ohio; since July 1920 in active charge of preparation of all design, plans, specifications and estimates, including plant for Hinde & Dauch Paper Co., Ft. Madison, Iowa (\$1 000 000); remodeling theatre and adding cantilever balcony, National Cash Register Co., Dayton (\$500 000); complete designs for new plant of Shibaura Eng. Works, Tokio, Japan (\$5 500 000) (with especial reference to earthquake resistance) and supervision of plans by Japanese engineers; Cons. Engr. on reconstruction of plants of Tokio Elec. Co., Kawasaki, Japan (\$3 000 000) and Nippon Elec. Co., Tokio, Japan (\$2 500 000). TT 4.6: P 4.6: RC 4.6: D 4.6. TT 11.9: SP 4: P 7.9: RC 7.4: D 5.1. Refers to H. R. Blicke; G. V. Clow, Henry S. Jacoby, Hurlbut S. Jacoby, E. J. Newton, W. E. Rudolph, C. G. Schade.

719 (14) SWANK, CLYDE ELMO, Assoc. M., 317 E. Cypress St., Charleston, Mo. (Elected June 1, 1920.) (Age 33. Born New Madrid, Mo.) May 1910 to Sept. 1912 Apprentice to Civ. Engr., first as Rodman and later Instrumentman, mostly drainage and levee surveys and construction, with some surveying; Chf. of Party. TT 2.3: SP 2.3. Sept. 1912 to June 1913 student, Cornell Coll., Mt. Vernon, Iowa, June 1913 to Jan. 1915 with A. J. Wheeler, C. E., Charleston, Mo., and New Madrid Eng. Co., as Chf. of Party and designing and supervising small construction work, part of time in direct charge of three surveying parties, Camp outfit, etc. TT 1.9: SP 0.8: P 1.6: RC 1.6: D 1. Jan. 1915 to Oct. 1916 member of firm, Wheeler & Swank, Civ. Engrs., on land reclamation, drainage, levee work and surveying; firm designed and supervised construction for county levee and drainage districts. TT 1.8: P 1.8: RC 1.8: D 1.8. Oct. 1916 to Dec. 1920 County Highway Engr. of Mississippi County, Mo., last 4 years also county surveyor of this county in charge of official surveying and road matters (500 miles of roads); designed and built 12 steel highway bridges. Sept. to Dec. 1918 in Field Artillery, Central Officers' Training School, U. S. Army, at Camp Zachary Taylor, Ky.; held official county positions by deputy. TT 4.2: P 4.2: RC 4: D 4. Jan. 1921 to Nov. 1922 in private practice as Civ. and Cons. Engr., made surveys and designed and prepared plans for \$1 269 000 worth of improved roads (90% constructed of concrete); made investigations and reports for over \$1 000 000 worth of drainage and levee work in southeastern Missouri, without supervision of construction; made surveys and designed and made plans for Brewer's Lake Drainage Dist. (\$426 000), Levee Dist. Nos. 1-3 of Perry County, Mo. (over \$500 000); numerous investigations and reports for Inter River Drainage Dist. of Missouri, and Frisco R. R.; also made surveys for, designed and supervised construction of Drainage Dist. Nos. 34 and 36 of Mississippi County (latter \$40 000), Drainage Dist. Nos. 12 and 14, Scott County (\$150 000 and \$30 000), and numerous smaller projects. TT 1.7: P 1.7: RC 1.7: D 1.7. Nov. 1922 to date Member, Swank-Tanner Eng. Co. Civ. and Cons. Engrs., made surveys and designed and supervised construction of concrete paving, East Prairie, Mo. (\$35 000), and Pin Hook Road Dist. (\$37 000), gravel road surveys and plans, design \$95 000, concrete paving \$65 000; surveys, design and supervision, Drainage Dist. No. 35 (\$25 000), and No. 37 (\$20 000), Mississippi County; also Cons. City Engr., Sikeston, Mo.; also Dist. Engr., St. John Levee and Drainage Dist. of Missouri (205 000 acres); had charge during high waters of 20 miles Mississippi River Levees; testifying in court as Expert Witness for Frisco R. R., various drainage districts, and various other work. TT 1.7: P 1.7: RC 1.7: D 1.7. TT 13.6: SP 2.6: P 11: RC 10.8: D 10.2. Refers to L. L. Hidingier, F. D. Hughes, F. G. Jonah, F. Kersting, H. M. Lewis, R. L. Miller, R. I. Randolph, J. C. Travilla.

720 (10) UPHAM, CHARLES MELVILLE, Assoc. M., State Highway Comm., Raleigh, N. C. (Elected Aug. 31, 1915.) (Age 38. Born Stoughton, Mass.) 1908 B. S., Tufts Coll. 1924 C. E., Univ. of N. C. June 1908 to Sept. 1909 Rodman, Transitman, and Chf. of Party, Charles River Basin Comm., Boston, Mass. TT 3.2: RC 0.5. Sept. 1909 to Dec. 1911 Res. Engr., Massachusetts Highway Comm. TT 2.2: RC 1.7: D 0.5. Dec. 1911 to Jan. 1913 Asst. Engr. in charge of laboratory and methods, Coleman duPont Road, Delaware. TT 1: RC 1. Jan. 1913 to June 1915 Chf. Engr., Bureau of Inspection, Coleman duPont Road. TT 2.5: RC 2.5: D 1. June 1915 to June 1917 Chf. Engr., Coleman duPont Road, Inc. TT 2: RC 2: D 1. June 1917 to June 1921 Chf. Engr., Delaware State Highway Comm. TT 4: RC 4. June 1921 to date Chf. Engr., North Carolina State Highway Comm. TT 3: RC 3. TT 18: RC 14.7: D 2.5. Refers to G. M. Braune, C. N. Connor, C. S. Gale, R. L. Humphrey, A. N. Johnson, G. F. Syme.

721 (14) VOGEL, KARL EUGENE, Assoc. M., 3724 Lincoln Blvd., Omaha, Nebr. (Elected Feb. 6, 1912.) (Age 41. Born Chelsea, Mich.) 1905 B. S. in C. E., Univ. of Mich., July 1905 to Jan. 1911 with American Bridge Co. as follows: July 1905 to Jan. 1906 Structural Detailer, High Bldg. Dept., Ambridge, Pa.; Jan. 1906 to Jan. 1907 in Detroit office on details

of buildings, and highway and railway bridge spans; Jan. 1907 to Nov. 1909 Structural Checker; Nov. 1909 to Jan. 1911 Asst. to Mgr., in charge of part of material yard and Laying Out and Punching Depts. *TT 5.5: RC 4.* Jan. 1911 to date with Omaha Steel Works, until Jan. 1913 as Secy. and Supt., organized and had complete charge of Shops and Eng. Dept., bought and installed machinery and completed layout of plant; 1913 to 1915 Secy. and Asst. Gen. Mgr., and since 1915 Vice-Pres. and Gen. Mgr., in charge of Eng., Contr., Operating and Erection Depts. *TT 13.5: D 13.5. TT 19: RC 4: D 13.5.* Refers to A. C. Arend, G. L. Campen, F. T. Darrow, A. J. Dyer, H. V. Knouse, G. T. Prince.

722 (5) WALSER, DANIEL CHARLES, Assoc. M., 1104 Munsey Bldg., Washington, D. C. (Elected March 7, 1921.) (Age 37. Born Brooklyn, N. Y.) 1910 B. S. in E., Univ. of Mich. July to Oct. 1910 with Sherman & Riggs, Cons. Engrs., Toledo, Ohio, as Transmittman on railroad survey and Computer on appraisal of power properties. *TT 2.2: SP 2: P 0.2.* Oct. 1910 to Jan. 1911 Recorder, U. S. Engr. Office, Louisville, Ky. *TT 0.2: P 0.2.* Jan. to May 1911 Draftsman and Computer, Chf. Engr.'s office, Michigan Central R. R., Detroit, Mich. *TT 0.3: P 0.3.* May 1911 to March 1922 Instrumentman, Computer, Draftsman, Designer and Asst. Hydr. Engr., Hydr. Dept., Aluminum Co. of America, Pittsburgh, Pa., until Oct. 1912 at Massena, N. Y., on field and office work on construction of addition to power plant, dredging on Massena Power Canal and working up hydraulic data, etc., for compilation of several reports; Oct. 1912 to April 1914 Designer, high masonry dams and other structures pertaining to hydro-electric plants; assisted in compiling several reports on large projects in the South; April 1914 to Jan. 1915 Asst. Engr. in charge (under Hydr. Engr.) of testing turbines in Massena Plant for St. Lawrence River Power Co.; after Jan. 1915 Asst. Hydr. Engr. in charge of design of several water power plants (aggregate installed capacity over 240 000 h. p.), such as Yadkin-Narrows and Yadkin Falls Developments near Badin, N. C. (three 35 000-h. and three 10 000-h. p. vertical units), latter with Ogee dam (575 ft. long, 40 ft. high), Cheoah Development, Little Tennessee River near Calderwood, Tenn. (three 25 000-h. p. vertical units) with arch gravity dam (750 ft. long, 215 ft. high) and Colton Development on Raquette River near Potsdam, N. Y. (30 000 h. p.); also assisted on reports and supervised design of general and detail plans for a development, etc. *TT 10.9: P 10.9: RC 6.2: D 4.8.* March 1922 to date in charge of Washington office, Charles B. Hawley & Co., Inc., Cons. Engrs., whose work is especially on design and construction of large water-power developments; designs have been made and reports compiled on several large hydro-electric developments (combined capacity over 200 000 h. p.), including (under construction) Hydro-Elec. Project No. 4 of South American Gold & Platinum Co. on Audaguena River, Colombia; Piney Development of Clarion River Power Co. near Clarion, Pa. (to have four 11 000 h. p. turbines), and Deep Creek Development (24 000 h. p.) of Youghiogheny Hydro-Elec. Corporation on Youghiogheny River, near Oakland, Md., consisting of earth dam (80 ft. high) on Deep Creek. *TT 2: P 2: RC 2: TT 15.7: SP 2: P 13.7: RC 8.1: D 4.8.* Refers to A. P. Davis, C. B. Hawley, J. W. Rickey, H. V. Schreiber, J. E. S. Thorpe.

723 (15) WARE, HOWARD THOMAS, Assoc. M., 1614 East Missouri St., El Paso, Tex. (Elected Junior Oct. 4, 1910; Assoc. M. April 18, 1916.) (Age 36. Born Alexandria, Ky.) 1909 Ph. B., Sheffield Sci. School. July to Nov. 1909 Rodman, with Stewart, Kerbaugh & Shanley, Contrs. *TT 2.2: SP 2.2.* Nov. 1909 to March 1910 Asst. City Engr., Covington, Ky. *TT 0.3: P 0.3.* March 1910 to Jan. 1915 Asst. Engr. and Asst. Supt., James Stewart & Co., Contr., on New York Barge Canal. *TT 4.7: P 4.7: RC 2: D 0.7.* Jan. 1915 to Aug. 1917 Gen. Supt. with V. E. Ware, Contr., at El Paso, Tex., general construction work, design of reinforced concrete, water-works and sewer. *TT 2.7: P 2.7: RC 1.7: D 1.* Aug. 1917 to March 1919 Private, etc., to 1st Lieut., Q. M. Corps, U. S. Army, 6 months in Constr. Div., remainder of time in Bakery Co. *TT 0.5: P 0.5: D 0.5.* March 1919 to Jan. 1924 Gen. Supt. with V. E. Ware, on reinforced concrete buildings, railroad facilities, water supply and sewers. *TT 4.7: P 4.7: RC 3.7: D 1.* Jan. 1924 to date Contr., railroad facilities, water supply and electric installations. *TT 0.5: P 0.5: RC 0.5. TT 15.7: SP 2.2: P 13.5: RC 7.9: D 3.2.* Refers to F. M. Bisbee, L. D. Blauvelt, J. L. Campbell, L. M. Lawson, F. B. Maltby, C. W. Sturtevant, A. G. Trost.

724 (3) WEAVER, CHARLES JOSEPH, Assoc. M., Waterford, N. Y. (Elected Aug. 31, 1915.) (Age 39. Born Waterford, N. Y.) Licensed Prof. Engr., New York State. 1906 C. E., Rens. Pol. Inst. Aug. 1906 to June 1907 Instrumentman and in charge of party for Chambers & Hone, New York City, on Salem Extension of G. & J. R. R. *TT 2.9: SP 2.9.* June 1907 to July 1908 Engr. and Supt. of Constr. for A. A. Parker, Waterford, N. Y., on mill of Continental Paper Bag Co., Greenwich, N. Y., and of Iroquois Pulp & Paper Co. at McKeever, N. Y. (cost \$90 000). *TT 1.1: P 1.1: RC 1.1: D 1.1.* July 1908

to Nov. 1909 Transitman, Rochester and Buffalo Divs., Erie R. R., in charge of bridge and culvert renewals. *TT 1.3: SP 0.6: P 0.7: RC 0.7: D 0.7.* Nov. 1909 to March 1911 Engr. and Supt. of Constr. for Frank Besch, Albany, N. Y., and A. A. Parker, Waterford on construction of New York State Rifle Range and other work involving expenditure of \$100 000. *TT 1.5: P 1.5: RC 1.5.* March to Dec. 1911 Engr. and Supt. of Constr. for A. T. Essery, Blauvelt, N. Y., and Frank Besch, on construction of water supply and sewage-disposal plant at Rifle Range (cost \$40 000). *TT 0.8: P 0.8: RC 0.8.* Dec. 1911 to Sept. 1912 Engr. and Supt. for A. A. Parker on construction of dam in Mohawk River and substructure of Delaware & Hudson R. R. Bridge at Waterford (cost \$65 000). *TT 0.7: P 0.7: RC 0.7: D 0.7.* Sept. 1912 to Oct. 1913 Engr. and Supt. for A. T. Essery, on construction of water-supply system at Poughkeepsie, N. Y. (cost \$40 000). *TT 1.1: P 1.1: RC 1.1.* Nov. 1913 to Feb. 1916 Asst. Engr., Dept. of Bridges and Bldgs., Central of Georgia Ry. Co., estimating, designing and supervision of construction. *TT 2.3: SP 1: P 1.3: RC 1.3: D 1.3.* Feb. 1916 to Feb. 1921 Asst. Engr., New York Central R. R. Co., at New York, Ravena, Schenectady, Syracuse and Rochester on various work involving expenditure of \$1 100 000; over 1½ years overseas as 1st Lieut., Engrs., U. S. Army. *TT 5: SP 1: P 4: RC 4: D 2.* Feb. 1921 to date in private practice at Waterford; Consultant for numerous corporations and municipal bodies on design and construction of dams, bridges, hydro-electric developments, pavements, etc., involving expenditure of \$750 000 (work under way involves \$172 500). *TT 3: P 3: RC 3: D 3.* *TT 19.7: SP 5.5: P 14.2: RC 14.2: D 8.8.* Refers to R. G. Finch, J. Flynn, Jr., J. Knickerbacker, D. B. LaDu, W. S. Lozier, P. C. Ricketts, Z. H. Sikes.

725 (10) WILBUR, WILLIAM EDWARD, Assoc. M., 506 Fourth and First National Bank Bldg., Nashville, Tenn. (Elected Oct. 8, 1918.) (Age 34. Born Omaha, Nebr.) 1911 B. S. in C. E., Iowa State Coll. June 1911 to Oct. 1916 with Waddell & Harrington (since 1914 Harrington, Howard & Ash), Kansas City, Mo., 2½ years in Drafting Room as Tracer, Detailer and Checker on bridges and other structures; about 9 months Inspector on construction of 12th St. Viaduct, Kansas City; nearly 3 months in Butler, Pa., and nearly 3 months in Dayton, Ohio, on design of bridges; nearly 2 years in Kansas City office, on detailing, checking and design of bridges. *TT 5.4: RC 0.5: D 0.5.* Nov. 1916 to Sept. 1919 with Klyce & Kackley, Miami, Fla., first on design, then Res. Engr. on construction of Miami Causeway (\$650 000 project, involving 4 000 lin. ft. of reinforced concrete viaduct, 13 000 lin. ft. of earth fill between timber walls and two bascule spans). *TT 2.9: RC 2.9: D 0.3.* Oct. 1919 to Jan. 1923 with Harrington, Howard & Ash, Kansas City, Mo., over 1 month as Res. Engr. at Jacksonville, Fla., 3½ years in Kansas City office on detailed design of bridges, such as 175-ft. plate girder span at New Castle, Pa., Spring St. Viaduct, Atlanta, Ga., bascule bridges for U. S. Govt. over Chesapeake & Delaware Canal, and many other structures. *TT 3.3: RC 3.3: D 3.2.* Feb. 1923 to date with B. H. Klyce, Cons. Engr., Nashville, Tenn., as Associate Engr. in charge of structural work, also in charge of drafting room; design of various structures and all types of municipal improvements. *TT 1.2: RC 1.2: D 1.2.* *TT 12.8: RC 7.9: D 5.2.* Refers to L. R. Ash, F. M. Cortelyou, H. H. Fox, J. L. Harrington, E. E. Howard, W. J. Kackley, B. H. Klyce, H. C. Tammen, H. P. Van Cleave.

726 (10) WILSON, WILLIAM HENRY, Assoc. M., Box 353, McMinnville, Tenn. (Elected Nov. 25, 1919.) (Age 33. Born Louisville, Ky.) 1907 to 1909 Rodman on construction of concrete sewers and street reconstruction, Louisville (Ky.) Sewer Comm. *TT 1.5.* 1909 to 1915 with Louisville & Nashville R. R. Co., 3 years as Rodman and Masonry Inspector, and 3 years Asst. Engr., on double-track construction, bridges and track work; during 1915 Res. Engr. in charge. *TT 6: RC 1.* 1915 to 1917 Special Engr., Park City, Tenn., in charge of design and construction of streets and sewers. *TT 1.2: RC 1.2: D 1.2.* 1917 Engr. of Constr., Am. Zinc Co. of Mascot, Tenn., on surface work and large reinforced concrete canal and mill buildings. *TT 0.7: RC 0.7: D 0.7.* 1917 to 1921 with Southern R. R. Co., 6 months as Asst. to Locating Engr., grade reduction surveys, and 3 years as Asst. Engr. in charge of design and location of reduced grades on Saludo, Mt. (preliminary design of structures and estimates). *TT 3: RC 3: D 3.* 1921 to date Res. Engr., Tennessee Dept. of Highways, in charge bridge construction exclusively, including large bridge at Rock Island, Tenn.; bridge at Silgo, and bridge at Collins River. *TT 3: RC 3: D 1.* *TT 16: RC 9.5: D 6.* Refers to C. N. Bass, H. A. Burr, N. W. Dougherty, E. M. Durham, Jr., D. Q. McComb, J. E. Moreland, J. A. Steel.

727 (15) WITTEN, DONALD, Assoc. M., 246 Lynch Bldg., Tulsa, Okla. (Elected Sept. 10, 1918.) (Age 34. Born Kansas City, Mo.)—Sept. 1908 to Feb. 1911 and Feb. to June 1912 student in Civ. Eng. Dept., Univ. of Missouri. June to Sept. 1909 Chainman and Rodman on

large real-estate development in Kansas City, Mo. June to Sept. 1910 Draftsman and Instrumentman in office of County Surveyor and Highway Engr., Jackson County, Mo. TT 1.5. Feb. 1911 to Feb. 1912 Transitman in charge of field party in City Engr.'s Dept. of Kansas City, Mo., surveys for street improvement, etc. TT 1. Aug. 1912 to May 1918 Draftsman, Designer and Res. Engr. for Waddell & Harrington and successor, Harrington, Howard & Ash, Kansas City, designing and supervision of construction of heavy bridges of steel and reinforced concrete, including heavy movable spans. TT 5.7: RC 1.9: D 2.3. May 1918 to date member of firm, Wood, Elston & Witten and successor, Wood & Witten, of Tulsa, Okla., on location, design and supervision of construction of highways, bridges and municipal pavements, and occasional special surveys and reports. (approx. \$2 000 000 worth of work handled). TT 6.2: RC 6.2: D 5. TT 14.4: RC 8.2: D 7.3. Refers to L. R. Ash, V. H. Cochrane, A. V. Elston, J. L. Harrington, E. E. Howard, A. L. Hyde, D. W. Patton.

728 (11) WRIGHT, JESSE BERNARD, Assoc. M., Box 1234, Flagstaff, Ariz. (Elected Nov. 4, 1914.) (Age 46. Born Allwood, Va.) 1902 Graduated in Civ. Eng., Va. Mil. Inst. Vacations 1900-1903 Chairman and Transitman on surveys with M. W. Venable, C. E. TT 2.2: SP 2.2. 1902 to 1903 Prof., Mathematics and Military Tactics, Danville (Va.) Military Inst. TT 0.7: SP 0.7. 1903 to 1905 Prof. of Military Tactics and Civ. Eng., New Mexico Military Inst., Roswell, N. Mex. TT 1.5: P 1.5. 1905 to 1907 City Engr., Tucson, Ariz. TT 1.3: P 1.3: RC 1.3: D 1.3. 1907 to 1909 in private practice as Civ. Engr., Tucson, railroad, land and mine surveys, dams and reservoirs, design. TT 2: P 2: D 0.8. 1909 to 1910 Chf. Engr., Santa Cruz Reservoir Co., Tucson, dam and reservoir design, irrigation plans. TT 0.7: P 0.7: RC 0.7: D 0.5. 1910 to 1914 Chf. of field party, Gen. Land Office, on extensive land surveys. TT 4: P 4: RC 2. 1914 to 1917 County Engr., Mohave County, Ariz., location and design of bridges, highways, sewer system, water development. TT 1.9: P 1.9: RC 1.9: D 1.2. Feb. to Oct. 1918 County Engr., Coconino County, Ariz., on highway location and design, bridge design and construction. TT 0.7: P 0.7: RC 0.7: D 0.7. Oct. 1918 to March 1919 Capt., Engrs., U. S. Army; Graduated, Engr. Officers' Training School, Camp A. A. Humphreys. TT 0.3: P 0.3. March 1919 to May 1922 and Oct. 1923 to date Highway Engr., Coconino County, and May 1919 to date also City Engr., Flagstaff, Ariz., highway, paving and bridge design and construction, general municipal work. TT 3.7: P 3.7: RC 3.7: D 3.7. TT 19.1: SP 3: P 16.1: RC 10.3: D 8.2. Refers to J. B. Girard, F. C. Kelton, J. C. McClure, T. Maddock, P. C. Nugent, C. C. Small, G. E. P. Smith.

729 (2) WYNNE, HAROLD GEORGE, Assoc. M., 185 Church St., New Haven, Conn. (Elected Sept. 9, 1919.) (Age 38. Born Unionville, Conn.) Nov. 1905 to June 1906 Meech. Draftsman, Belden Machine Co., New Haven, Conn., machine and tool design and experimental and testing work. TT 0.6: SP 0.6. June 1906 to Jan. 1907 Rodman, and Jan. to Nov. 1907 Transitman, New York, New Haven & Hartford R. R. TT 1.4: SP 1.4. Nov. 1907 to May 1909 in private practice, title searching, surveys and construction work, New Haven, Conn. TT 1.5: P 1.5: RC 1.5: D 0.4. May 1909 to July 1914 with N. Y., N. H. & H. R. R., until Aug. 1912 as Asst. Engr. on design and layout of track work, yards, buildings and bridges, then Designing Draftsman, 1½ years on double-tracking and line changes, Berkshire Div., in charge of office, all designs, plans, and 6 months on Thames River Bridge, New London, Conn., rock core borings, design of track; abutments, piers, temporary structures, street changes, large important work. TT 5.2: P 5.2: RC 2.9: D 4.2. July to Nov. 1914 in private practice in Ontario, Saskatchewan and Quebec, Canada. TT 0.3: P 0.3: RC 0.3: D 0.3. Nov. 1914 to Oct. 1915 in private practice at New Haven, mechanical work, structural steel and factory design, appraisal and valuation work, expert testimony, court work. TT 0.9: P 0.9: RC 0.9: D 0.4. Oct. 1915 to May 1917 Draftsman and Asst. Engr., N. Y., N. H. & H. R. R., revaluation for U. S. Govt., title and record work, calculation and establishment of center and base lines. TT 1.6: P 1.6: RC 1.6. May 1917 to Aug. 1918 Asst. Engr., Bureau of Engrs., New Haven, design and experimental work, sewers, bridges, paving. TT 1.3: P 1.3: RC 1.3: D 1.3. Aug. to Dec. 1918 Instructor, Sheffield Scientific School, Yale Univ., military engineering for Reserve Officers' Training Corps. TT 0.4: P 0.4: RC 0.4. Dec. 1918 to May 1924 Asst. Engr., Bureau of Engrs., New Haven, street line and grade work, design and construction of sewers, overflows and bridges; design of sewage experiment station; charge of mechanical work and experiments on sewage experiment station, design of sewer system for 14th and 15th Wards, New Haven, storm water and sanitary, and of sewer system for 33d Ward. Also in private practice at New Haven; designs and layouts of large developments and private estates, factory and structural designs and alterations; court work; appraisal and valuation work, structures and equipment; investigation of stresses and loadings in factories

and warehouses; testing of materials and soils; investigation and appraisal U. S. Govt. housing projects and shipyards at Portsmouth, N. H., and New London, Conn. TT 5.4: P 5.4: RC 5.4: D 4. TT 18.6: SP 2: P 16.6: RC 14.3: D 10.6. Refers to S. E. Barney, C. Blakeslee, L. J. Carmalt, C. C. Elwell, F. L. Ford, E. Gagel, P. Sterling, E. W. Wiggin.

FROM THE GRADE OF JUNIOR

730 (9) BICKEL, GEORGE ROBERT, Jun., 1315 Cherokee Rd., Louisville, Ky. (Elected Oct. 9, 1917. (Age 29. Born Louisville, Ky.) 1917 C. E., Rens. Pol. Inst. Aug. to Sept. 1915 working up cost data for Henry Bickel Co., Louisville, Ky., on Louisville & Portland Canal. TT 2: SP 2. June to Dec. 1917 Chf. of Party on road work for Constr. Quartermaster Dept., Camp Zachary Taylor, Ky. TT 0.4: SP 0.4. Dec. 1917 to Aug. 1918 Estimator, Henry Bickel Co. TT 0.7: SP 0.7. Aug. 1918 to Feb. 1919 Chf. Machinist's Mate, U. S. Navy, at Public Works Dept., Charleston (S. C.) Navy Yard. TT 0.6: SP 0.6. Feb. 1919 to date Engr., Henry Bickel Co., in charge of estimating, submitting proposals, executing contracts and field operations on all work involving foundation work and underpinning, sewers, bridges, and reinforced concrete construction; in charge of estimating and submitting proposals on all road work. TT 5.2: P 5.2: RC 4.1: D 1.1. TT 8.9: SP 3.7: P 5.2: RC 4.1: D 1.1. Refers to A. G. Butler, W. H. Courtenay, J. C. Haskins, J. M. Johnson, A. A. Kreiger, J. C. Murphy, J. Willson.

731 (5) BLACKMAN, STEWART, Jun., 1757 Euclid St., N. W., Washington, D. C. (Elected May 28, 1923.) (Age 30. Born Brooklyn, N. Y.) 1911 and 1912 student in Civ. Eng., Kansas State Agricultural Coll. Jan. 1916 to July 1917 Gen. Foreman, Proving Grounds, Bethlehem Steel Co., at Cape May, N. J., in fuse plants and in gun shops as Inspector. TT 1.9: SP 1.4: P 0.5: RC 0.5. Nov. 1917 to Oct. 1920 2d Lieut., U. S. Army, Field Artillery and Observer, Air Service, A. E. F.: 1918 graduated from Second Aviation Instruction Centre, Tours, France. TT 3: SP 1.5: P 1.5: RC 0.5. Oct. to Dec. 1921 Asst. Engr., Massachusetts Highway Comm. TT 0.2: P 0.2. Feb. to March 1922 Draftsman, Texas Co., Houston, Tex. TT 0.1: SP 0.1. March to May 1922 Draftsman, Humphreys Oil Co., in Texas fields. TT 0.2: SP 0.2. May to Aug. 1922 Instrumentman and Draftsman, City of Houston. TT 0.2: SP 0.2. Aug. 1922 to June 1923 Draftsman (about 3 months), Field Engr., Kansas City Power & Light Co., design, location and maps in connection with construction of high-tension transmission line. TT 0.8: SP 0.2: P 0.6: RC 0.6. July to Oct. 1923 Field Engr., Producers & Refiners Corporation, Mutual Oil Co., on location of water, light and telephone lines, and well locations, Salt Creek (Wyo.) fields. TT 0.3: P 0.3: RC 0.3. Nov. to Dec. 1923 Res. Engr., W. B. Rollins & Co., Cons. Engrs., on municipal work at La Crosse, Kans. (\$75 000). TT 0.2: P 0.2: RC 0.2. Jan. to Feb. 1924 Draftsman, Milwaukee (Wis.) Board of Harbor Commrs., on maps for Harbor Belt R. R. TT 0.2: P 0.2. March 1924 to date Valuation Engr., Julien Holding Corporation, New York City, on investments, preparation and review of plans, specifications, etc., industrial reports and investigations. TT 0.2: P 0.2: RC 0.2. TT 7.3: SP 3.6: P 3.7: RC 2.3. Refers to J. B. Cleary, A. W. Dean, H. R. Farnsworth, R. K. Hale, J. C. McVea, N. E. Waddell.

732 (10) BROWN, CHANNING BOLTON, Jun., Southern Power Co., Charlotte, N. C. (Elected May 28, 1923.) (Age 26. Born Charlottesville, Va.) 1919 C. E., Univ. of Va. June to Sept. 1915 Rodman and Instrumentman, Dupont Eng. Co., at Hopewell, Va., on layout of powder plant. June to Sept. 1918 Instrumentman and Chf. of Party, The Foundation Co., at Seven Pines, Va., on layout of buildings, tracks and equipment for powder bag and loading plant. Sept. 1918 to June 1919 Instructor in plane surveying and railroad engineering, Univ. of Virginia. TT 2: SP 2. June 1919 to Jan. 1920 Instrumentman and Chf. of Party, Dupont Eng. Co., on construction of four-hundred-house village, office building and storage building (both reinforced concrete) for Oakland Motor Car Co., Pontiac, Mich. TT 0.6: P 0.6. Jan. 1920 to June 1921 Detailer, Estimator and Salesman of structural steel, reinforcing bars and miscellaneous iron for Southern Eng. Co. at Charlotte, N. C. TT 1.5: P 1.5. June 1921 to Feb. 1922 Inspector and Jun. Engr. with Gilbert C. White, Cons. Engr., Durham, N. C., on Rock Hill, S. C., project of street pavement and improvement (cost \$700 000). TT 0.7: P 0.7. Feb. 1922 to date Designer in reinforced concrete and structural steel, Southern Power Co., Charlotte, on two 80 000-h. p. hydro-electric developments, one at Mountain Island, and one at Great Falls, 9 000 boiler h. p. steam station at Mt. Holly, 7 000 boiler h. p. steam station at University, N. C., 480 000-h. p. hydro-electric station at Isle Maligne, Que., Canada, for Quebec Development Co., and 8 000 boiler h. p.

steam station at Duncan, S. C. *TT 2.4: P 2.4: RC 2.4: D 2.4. TT 7.2: SP 2: P 5.2: RC 2.4: D 2.4.* Refers to J. Bolton, B. S. Drane, A. C. Lee, W. S. Lee, C. A. Mees, O. Z. Wrenn.

733 (5) COE, EDWARD HAROLD, Jun., Ft. Humphreys, Va. (Elected Oct. 11, 1920.) (Age 27. Born Duluth, Minn.) 1919 B. S. in Eng., Univ. of Minn. June to Sept. 1916 Chairman, June to Oct. 1917 Inspector of piling and concrete, June to Sept. 1918 Inspector on concrete superstructure, and progress estimating, and June 1919 Inspector on foundation tests, Dock No. 6, all for Duluth, Missabe & Northern Ry. *TT 2.1: SP 2.1.* Dec. 1919 to Nov. 1920 Engr., Missabe Iron Co., in charge of all surveying, and of some construction on railroad, highway, townsite, water, sewers, dams, topography, etc. *TT 0.9: P 0.9: RC 0.9: D 0.5.* Dec. 1920 to July 1921 Computer, Valuation Dept., D. & I. R. Ry. *TT 0.6: SP 0.6.* Aug. 1921 to March 1923 Second and First Lieut., Inf., U. S. Army, Ft. Snelling, Minn., with 7th Engr. Training Co., in charge of Post Drafting School, surveys, construction of rifle and pistol ranges, four 10-stall garages, curling rinks, etc.; acted in consulting capacity to Quartermaster in construction matters. *TT 1.7: P 1.7: RC 1.7: D 0.5.* April 1923 to date 2d Lieut., Corps of Engrs., U. S. Army, Ft. Humphreys, Va., engineering work. *TT 1.1: P 1.1: RC 1.1. TT 6.4: SP 2.7: P 3.7: RC 3.7: D 1.* Refers to H. C. Ash, W. A. Clark, E. K. Coe, A. S. Cutler, W. H. Hoyt, O. M. Leland, T. F. McGilvray, E. H. Marks, G. A. Taylor, W. H. Woodbury, W. G. Zimmerman.

734 (4) DENZLER, EDWIN WILLIAM, Jr., Jun., 2509 South Lambert St., Philadelphia, Pa. (Elected Dec. 4, 1922.) (Age 26. Born Philadelphia, Pa.) 1922 B. S. in C. E., Univ. of Pa. Summers 1914-1918 with E. H. Vare Contr. Co., Philadelphia, Pa., as Timekeeper, Sub-Foreman and Supply Foreman on sewer and underground conduit construction for Bell Telephone Co. Summers 1919 to 1921 with Atlantic Refining Co., Philadelphia, in drafting room and field, structural detailing, river work, surveying, mapping and estimating. *TT 3.7: SP 3.7.* 1921 to 1922 in charge of series of comparative tests of slag, gravel and crushed stone concrete, all consistencies and all mixes, Concrete Materials Research Bureau, Philadelphia. *TT 0.5: P 0.5: RC 0.5.* 1922 to 1923 Foreman on road building, later in office in charge of Eng. Dept., Haydock-Martin Co., Inc., Philadelphia, estimating, writing specifications, reporting on projects, cost analysis, etc. *TT 0.8: P 0.8: RC 0.8.* 1923 to date with Joint Comm. for Elimination of Toll Bridges over Delaware River, Trenton, N. J., in charge of all investigations, and designs to increase capacity of highway bridges; design of retaining walls, keeping of cost data, inspection of construction, field surveys, and preparation of engineer's estimates. *TT 1.2: P 1.2: D 1.2. TT 6.2: SP 3.7: P 2.5: RC 1.3: D 1.2.* Refers to H. C. Berry, L. Focht, J. Logan, A. G. Nicolaysen, W. Samans, W. H. Wilson.

735 (13) EVANS, JOHN MARSHALL, Jun., 225 Bush St., San Francisco, Cal. (Elected June 6, 1921.) (Age 31. Born Oakland, Cal.) 1915 B. S. in Civ. Eng., Univ. of Cal. March to Aug. 1911 Rodman and Chairman, Standard Oil Co. (California), pipe-line and reservoir construction. *TT 2.5: SP 2.5.* July to Sept. 1915 Timekeeper, materials and cost records, etc., with Whitlock & Gorrill, Contrs., on California State highway construction. *TT 0.3: SP 0.3.* Oct. 1915 to Aug. 1917 in Eng. Dept., Standard Oil Co. (California), on design and engineering investigations; also Field Engr., Midway-Sunset Field, Taft, Cal. *TT 1.9: P 1.9: RC 1.2: D 0.6.* Aug. 1917 to Nov. 1919 1st Lieut. and Capt., 8th U. S. Infantry, A. E. F.; from Nov. 1918-July 1919 work included charge of distribution of labor in construction and operation of Camp Pontanezen, Brest, France. *TT 2.3: P 2.3: RC 2.* Jan. 1920 to date in Eng. Dept., Standard Oil Co. (California), in charge of design work for construction of sales plants; Job Supervisor in field on construction of million-barrel concrete-lined oil reservoir; in charge of special investigation relating to methods of handling crude petroleum and refined products. *TT 4.3: P 4.3: D 2.6. TT 11.3: SP 2.8: P 8.5: RC 7.5: D 3.2.* Refers to A. A. Brown, F. B. Cook, Jr., C. Derleth, Jr., H. H. Hall, R. A. Monroe, A. S. Russell, C. C. Scharpenberg, J. B. Wells, F. G. White.

736 (1) FLEMING, ERIC, Jun., 209 Townsend St., New Brunswick, N. J. (Elected May 28, 1923.) (Age 27. Born New York City.) Registered Civ. Engr. in N. J. 1920 B. S. in C. E., 1923 C. E., Rutgers Coll. April 1915 to June 1920 (summers and part of time while at college) Asst. to Asher Atkinson, C. E., as Rodman and Draftsman (1915-1916); Field Asst. to Res. Engr., Continental-Jewell Filtration Co., on construction of New Brunswick Filtration Plant; Draftsman, layout, piping details of plant, on survey (200 acres), Monroeville, N. J., for State Dept. of Agriculture; survey annex to New Brunswick (400 acres); Instrumentman, Draftsman on U. S. Housing Project, etc. (June 1917 to June 1918); Prin. Asst. Engr., field and office, computations, mapping, subdivision, monumenting, development

of Nixon, N. J.; estimate, Wright-Martin Aircraft Corporation fuel storage supply (1200 tons); on construction, Westons Mills Dam (\$40 000); layout and plans rotary pump and turbine installation, city pumping station, details, piping, boiler room, 140-ft. stack, etc.; on plans and erection of 112-ft. steel foot-bridge over Pennsylvania R. R. tracks (\$18 000), construction storm sewers (\$14 000) (June 1918 to June 1920). *TT 2: SP 2.* June 1920 to June 1923 Asst. City Engr., field and office work, in charge on survey and construction, field work, plotting, design, estimates; establishing grade on streets (\$625 000); design of sewers (sanitary, \$4 500, storm, \$3 700); dredging (\$5 000); completed city survey and tax map to State Board specifications; designed municipal improvements, reinforced concrete bridge extension, park approaches, architectural features, light standards; compilation of water-works statistics, charts, maps, plans, etc., for exhibit and reproduction; charge Asher Atkinson's private practice, estimates, 300 surveys, urban and rural, building construction, estimate, etc., charge location, design and construction industrial development railroad spur ($\frac{3}{4}$ mile, \$18 000). Designer, $\frac{1}{8}$ mile reduction 12% grade on highway approach to city. *TT 3: P 3: RC 2.7: D 1.2.* June 1923 to date Civ. and Arch. Engr., Elec. Bond & Share Co., New York; Archt., deep-water steam electric station (40 000 kw.), Houston, Tex., for Houston Power & Light Co.; Jordan S. E. Station, Jordan, Utah (20 000 kw.); Designer, Squad Leader, Checker, etc., on other work; Squad Leader, Arch. Div. (all work brick, steel and concrete); acting Chf. in absence of Chf. of Architectural Div. *TT 1: P 1: RC 0.7: D 0.5.* Since 1919 also private practice, design and preparation architectural plans, residential and industrial (\$100 000). *TT 6: SP 2: P 4: RC 3.5: D 1.7.* Refers to A. Atkinson G. Blaauw, A. Castillo y Grau, L. R. Cobb, W. E. Fitzgerald, V. F. Hammel, A. R. Henderson, J. T. Hopkins, E. H. Rockwell, S. A. Stephenson, Jr.

737 (2) GALLAGHER, LEONARD BRUCE. Jun., 1145 Chapel St., New Haven, Conn. (Elected Dec. 2, 1914.) (Age 31. Born Norristown, Pa.) 1914 B. S. in C. E., Univ. of Pa. June to Sept. of years 1910 and 1912 Transitman, Alan Wood Iron & Steel Co., Conshohocken, Pa., laying out foundations and giving grades. June to Sept. 1911 Transitman, Philadelphia & Western R. R. June to Sept. 1913 Contr., construction of dwelling houses and small bridge, at Norristown, Pa. *TT 2.3: SP 2.3.* June 1914 to Aug. 1917 Chairman, Rodman, Transitman and Asst. Supervisor on design and construction of buildings and track layouts, wharves and streets, M. of W. Dept., Pennsylvania R. R., Terminal Div., Philadelphia, Pa. *TT 3.2: SP 2.2: P 1: RC 0.5: D 0.5.* June 1917 to Sept. 1919 with U. S. Army, as 2d Lieut., E. O. R. C.; Engr. Training Camp, American Univ., Washington, D. C. (nearly 3 months); with 103d Engrs., Camp Hancock, Ga.; in France with Ry. Transportation Corps (over 9 months); July 1918 became Capt., C. of E.; at Engr. School, Angers, France (over 1 month); at Bridge School, Langres (over 1 month); with 117th Engrs., Mayschoss, Germany, on maintenance of roads (over 2 months); with 301st Engrs., Brohl, Germany, Engr. Sec. G, 3d-4th Corps (over 2 months); student, Universite de Montpellier, France (6 months). *TT 3.1: P 2.1: RC 1.2.* Sept. 1919 to Sept. 1922 with 11th Engrs., Panama, on road construction and topographical surveys. *TT 3: P 3: RC 3: D 1.* Oct. 1922 to date Asst. Prof., Military Science and Tactics, Yale Univ., New Haven. *TT 1.2: P 1.2: RC 1.2. TT 11.8: SP 4.5: P 7.3: RC 5.9: D 1.5.* Refers to A. S. Ackerman, H. C. Berry, W. B. Harrison, D. L. Neuman, C. S. Riche, C. J. Tilden, S. H. Widdicombe.

738 (1) GOLD, MAXWELL, Jun., 209 East 10th St., New York City. (Elected Jan. 15, 1923.) (Age 26. Born New York City.) 1920 B. S., Cooper Union. May to June 1920 Chf. of Party, June 1920 to July 1921 Asst. Res. Engr. making up monthly estimates and supervising construction surveys, and July to Oct. 1921 Engr.-Inspector on concrete road and bridge work, Delaware State Highway Comm. *TT 3.5: SP 2: P 1.5.* Oct. to Dec. 1921 Engr.-Inspector, Contr. No. 186, and Jan. to June 1922 Asst. on Survey, Contr. No. 155, and appointed Res. Engr. in full charge of bridge and road construction, North Carolina Highway Comm. *TT 0.6: P 0.6: RC 0.4.* July to Oct. 1922 on reconnaissance work, surveys for new roads, and Oct. to Dec. 1922 on design of highway layouts and grades, Illinois Bureau of Public Works. *TT 0.5: P 0.5: D 0.2.* Feb. to March 1923 Draftsman, T. E. Murray, Inc., New York City, tracing layouts in Elec. Dept. *TT 0.2: SP 0.2.* March 1923 to date Asst. Engr., Bureau of Sewers, Brooklyn, on design of storm and sanitary sewerage system in Sheepshead Bay Territory and Brighton Beach, Borough Pres. of Brooklyn. *TT 1.3: P 1.3: RC 1.3: D 1.3.* *TT 6.1: SP 2.2: P 3.9: RC 1.7: D 1.5.* Refers to C. N. Conner, F. E. Foss, G. T. Hammond, J. C. Riedel, D. W. Robbins, C. M. Upham.

739 (5) HEATON, EARL OSCAR. Jun., U. S. Coast and Geodetic Survey, Washington, D. C. (Elected April 25, 1921.) (Age 27. Born Potsdam, N. Y.) 1918 B. S. in C. E., Clarkson Coll. Tech., Aug. 1918 to date with U. S. Coast and Geodetic Survey as follows: Aug. 1918

to Jan. 1919 Extra Observer in charge of sub-party on precise levels on traverse; Feb. to Aug. 1919 Extra Observer and Chf. of Party on check traverse and precise levels; Sept. to Dec. 1919 Extra Observer and Aid in charge of sub-party on precise traverse in Louisiana; Jan. to May 1920 Aid and Jun. Hydrographic and Geodetic Engr. preparing plans and organizing party for precise triangulation; June to Dec. 1920 Jun. Hydrographic and Geodetic Engr. in charge of sub-party on precise triangulation in California; Jan. to May 1921 preparing plans and organizing party, and June to Dec. 1921 Chf. of Party, on precise triangulation in Southwest; Jan. to April 1922 on computation work in Washington office, preparing plans and organizing party, and May to Dec. 1922 making observations, computations, etc., on precise triangulation party in Alaska; Jan. to April 1923 Asst. and Chf. of Party on precise base measurement near Pasadena, Cal.; May to July 1923 Chf. of Party on Texas-Oklahoma Boundary precise triangulation; since Aug. 1923 Chf. of Party on 49th Parallel reconnaissance for precise triangulation (International Boundary); since Dec. 1923 Jun. Hydrographic and Geodetic Engr. in charge of course in Geodetic Astronomy and Precise Triangulation Computation for junior officers. *TT 7.7: RC 3.1: D 1.4.* Refers to W. Bowle, G. D. Cowie, R. L. Faris, C. V. Hodgson, P. C. Whitney.

740 (11) KRAMER, HANS, Jun., California Inst. of Technology, Pasadena, Cal. (Elected Nov. 25, 1919.) (Age 29. Born Magdeburg, Germany.) 1918 U. S. Mil. Acad. June 1918 became 2nd Lieut., July 1918 1st Lieut., and Aug. 1918 Capt., Corps of Engrs., U. S. Army; June 1911 to Aug. 1912, June 1913 to March 1914 and March to June 1915 Tracer, Detailer, Draftsman and Checker, structural and mechanical drafting, Northern Eng. Works, Detroit, Mich., cranes and hoisting machinery. *TT 2.2.* Aug. 1912 to Feb. 1913 and March 1914 to March 1915 Draftsman, heating, ventilating and power plant design with F. F. Van Tuyl, Cons. Engr., Detroit. *TT 1.5.* Aug. 1918 to June 1920 Capt., Corps of Engrs., U. S. Army, first 4 months training engineer troops and officers and Camp Adjutant, Camp Lech, D. C.; later student, and finally Student Officer, Engr. School, Camp Humphreys, Va. *TT 1.9.* July to Aug. 1920 Camp Adjt., Executive for Camp Commander, Engr. Reserve Officers' Training Camp, Camp Humphreys. *TT 0.2: RC 0.2.* Sept. 1920 to date Prof. of Military Science and Tactics, California Inst. of Technology, in direct charge of and responsible for conduct of instruction and training of Engr. Reserve Officers' Training Corps Unit. *TT 3.6: RC 3.6. TT 11.4: RC 3.8.* Refers to E. D. Ardery, C. T. Leeds, R. R. Martel, W. W. Michael, F. Thomas.

741 (14) McKELVEY, JAMES GRAY, Jun., 706 Chestnut St., St. Louis, Mo. (Elected April 16, 1918.) (Age 26. Born St. Louis, Mo.) June 1915 to Dec. 1916 Draftsman for Chf. Engr. office of A. B. Groves, Archt. *TT 1.5: SP 1.5.* Dec. 1916 to June 1917 Draftsman and Supt. for Klipstein & Rathmann, Archts. *TT 0.5: SP 0.5.* June 1917 to March 1918 Draftsman, Supt. and Asst. Engr., Div. of Parks, St. Louis, Mo. *TT 0.8: SP 0.8.* March 1918 to Nov. 1920 Asst. Engr., and Nov. 1920 to June 1921 Chf. Engr., Div. of Bldgs., St. Louis. *TT 3.2: SP 1: P 2.2: RC 1.* June 1921 to Jan. 1922 member of firm, H. O. Hirsch & Co., Contrs. *TT 0.5: P 0.5: RC 0.5.* Jan. 1922 to date Pres., McKelvey Constr. Co., Inc., building streets, sewers, constructing office buildings, grading, general contracting; since April 1923 also Pres., Clayton Quarry Co., quarry and road contracting. *TT 2.3: P 2.3: RC 2.3. TT 8.3: SP 4: P 4.8: RC 3.8.* Refers to A. A. Aegerter, W. C. E. Becker, N. Cunliff, H. Rush, C. E. Smith.

742 (7) MEAD, HAROLD WASHBURN, Jun., 120 W. Gorham St., Madison, Wis. (Elected March 7, 1921.) (Age 29. Born Rockford, Ill.) 1920 B. S., Univ. of Wisconsin. June to Sept. of years 1915 and 1916 Rodman on hydro-electric surveys for Mead & Seastone, Cons. Engrs., Madison, Wis. *TT 2.* Sept. 1917 to May 1919 1st Lieut., F. A., U. S. Army, instructing in topography and theory of probabilities; in charge of map work and tactical operations. *TT 1.7: RC 1.* June to Oct. 1919 on investigation of dam sites on Missouri River. *TT 0.3: RC 0.3.* July 1920 to April 1922 Instrumentman, hydro-electric survey, Paint River, office work, general engineering, survey for hydro-electric plant at Iron Mountain, Mich., miscellaneous surveys and office work for Mead & Seastone. *TT 1.7: RC 1.* April 1922 to date with Daniel W. Mead-Chas. V. Seastone, Cons. Engrs., as Res. Engr. on new boiler plant for Madison Gas & Elec. Co. and (since Jan. 1924) in office. *TT 2: RC 2. TT 7.7: RC 4.3.* Refers to L. R. Balch, C. P. Conrad, D. W. Mead, C. V. Seastone, F. E. Turneure, R. G. Walter.

743 (1) PHILLIPS, ROBERT JAMES, Jun., Care, American Embassy, Tokyo, Japan. (Elected Dec. 6, 1920.) (Age 30. Born Brooklyn, N. Y.) 1911 to 1913 student, Brooklyn Polytechnic Inst. 1913 to 1915 Draftsman, Eng. Dept., Post & McCord, New York City, checking structural steel detail drawings and plans and preparing layouts and design

data. TT 2: SP 2. 1915 to 1917 Asst. to Chf. Engr., American Steel Co., Havana, Cuba, on work connected with structural steel designing of power plants, sugar and cement mills and various other industrial works. TT 1.5: P 1.5: D 1. 1917 to 1919 with U. S. Army, first at Officers' Training Camp, Plattsburg, N. Y., later received special instruction in artillery at Ft. Monroe, Va.; early in 1918 became Lieut., Ordnance Dept., and Res. Engr. in charge of construction of \$2 500 000 engineering project for manufacture of tetranitroaniline at plant of Calco Chemical Co., Bound Brook, N. J. TT 2: P 2: RC 2. 1919 to 1921 Res. Sales Engr., W. R. Grace & Co., at Branch in Calcutta, India (where Company operated as British-American Machinery Co., Ltd.) on estimating, designing, supervision of details and construction for all reinforced concrete construction in territory in which office handled all engineering activities (India, Burma and Ceylon). TT 2: P 2: RC 2: D 2. 1921 to 1923 in Constr. Dept., Johns-Manville, Inc., New York City, in charge of Company's interests on contract with Cornell Univ., Ithaca, N. Y., for connecting principal buildings on University grounds with high-pressure steam-heating system run in underground conduit, the farthest removed building from the central heating plant being more than 2 miles distant. TT 2: P 2: RC 2: D 2. 1923 to date with American Embassy, Tokyo, Japan, and representing Dept. of Commerce as Trade Commr., reports on conditions abroad and assists in promotion of trade in connection with iron and steel, electrical equipment and industrial machinery industries. TT 1: SP 1. TT 10.5: SP 3: P 7.5: RC 6: D 5. Refers to G. D. Camp, W. W. Ewing, W. W. Johnston, R. A. McMenimen, C. W. Noble, J. H. Spengler, H. C. Walton.

744 (15) SIMPSON, HERMAN NATHANIEL, Jun., Sinclair Refining Co., Houston, Tex. (Elected April 19, 1920.) (Age 29. Born Galva, Ill.) 1916 B. S. in Civ. Eng., Armour Inst. Tech. May 1916 to Jan. 1917 Instrumentman and Asst. to Engr. of Constr., Secs. 13 and 14, Calumet-Sag Channel, Blue Island, Ill., heavy excavation, concrete retaining walls, bridge, railroad and road work. TT 2.7: SP 2.7. Jan. to Aug. 1917 on design and drafting for construction of oil refineries and industrial plants and buildings; Engr. on construction of \$750 000 heavy reinforced concrete building, Leonard Constr. Co., Chicago, Ill. TT 0.7: P 0.7: RC 0.3: D 0.3. Aug. 1917 to May 1919 with U. S. Army, as 2d Lieut., Engrs., at 2d Officers' Training Camp, Ft. Leavenworth, Kans.; after Jan. 1918 in France; became 1st Lieut., and Capt. of Engrs.; returned to United States as Adj. of 17th Engrs. TT 1.7: P 1.7: RC 1.5. May 1919 to date successively Constr. Engr., Asst. Res. Engr. and Res. Engr., Sinclair Refining Co., Chicago, on design and construction of buildings, mechanical layouts and other units for a modern oil refinery; later in charge of all design, construction and maintenance work at Houston (Tex.) Refinery of Company. TT 5: P 5: RC 4: D 4. TT 10.1: SP 2.7: P 7.4: RC 5.8: D 4.3. Refers to E. H. Brown, J. S. Hess, R. M. Knox, C. L. Parmelee, J. B. Stein, J. K. Woolf, K. K. Wyatt.

745 (6) STAGER, FREDERICK FRANK, Jun., 2510 Braddock Ave., Swisssvale, Pa. (Elected March 12, 1918.) (Age 29. Born Philadelphia, Pa.) 1917 C. E., Rens. Pol. Inst. July 1917 to date with McClintic-Marshall Co., until June 1918 as Draftsman, at Carnegie, Pa., detailing structural steel for office and factory buildings; then Asst. Engr. and Timekeeper, Erection Dept., at Pittsburgh, Pa., on erection of bridges and factory buildings; since Feb. 1919 in Eng. Dept., Pittsburgh, as Designer and Estimator of structural steel for bridges, mill buildings, ore bins, etc. TT 8.8: SP 3.5: P 5.3: RC 4: D 2. Refers to E. F. Ball, C. M. Denise, F. H. Finch, C. H. Harlan, R. MacMinn, G. L. Taylor.

746 (6) TEMPLIN, RICHARD LAURENCE, Jun., P. O. Box 12, Parnassus, Pa. (Elected April 18, 1916.) (Age 31. Born Minneapolis, Kans.) 1915 B. S. in Civ. Eng., Univ. of Kans. Sept. 1915 to June 1917 graduate work in engineering, Univ. of Ill. (1917 received degree of M. S. in Theoretical and Applied Mechanics), June to Sept. 1916 Draftsman, Kansas City Terminal Ry. Co. TT 3.8: SP 2.2: P 1.5. July 1917 to Jan. 1919 Asst. Engr. Physicist, Bureau of Standards, Washington, D. C. TT 1.5: SP 1.5. Jan. 1919 to date Chf. Engr. of Tests, Tech. Direction Bureau, Aluminum Co. of America, New Kensington, Pa., at various times did much machine design work. TT 5.3: P 5.3: RC 5.3. TT 10.5: SP 3.7: P 6.8: RC 5.3. Refers to M. L. Enger, R. F. Ewald, L. J. Larson, H. A. Rice, F. E. Richart, A. N. Talbot, C. C. Williams.

The Board of Direction will consider the applications in this list not less than thirty days after the date of its issue.